

The MILLING WORLD

and CHRONICLE

OF THE GRAIN and FLOUR TRADE.

PUBLISHED EVERY THURSDAY MORNING.

VOL. X.—NO. 24.

Buffalo, N. Y., October 9, 1884.

\$1.50 Per Year.
Single Copies, 3 Cts.

NOTES ON DIVERSE MILLING SYSTEMS.

THE system of roller milling in Europe originated in Switzerland as early as 1832, says Mr. A. Millot in *Die Muehle*. From there it was introduced into Austria and Hungary, was utilized very extensively. On account of the experiments made fifteen years ago by M. F. Wegman in Naples and later on in Zurich, with porcelain rollers, which were at that time introduced into Switzerland, we have since inaugurated a new system of high and half-high milling with rollers, and by this have demonstrated how urgently milling needed a re-organization. Since then thousands of establishments in Europe and everywhere else, have introduced roller mills, keeping step with the most recent improvements made, and to-day it seems to be the general verdict that the half-high milling is the most advantageous system ever known, before as well as since the re-organization of milling, and that it, most likely, will be the milling system of the future. Indeed, when we look backward to the old-fashioned method of milling, we are forced to admit that it cannot be considered a convenient proceeding to grind grain, middlings, etc., etc., all at once, because, no matter how well cleaned, there are too many impurities present which will prevent the production of a fine white flour. In addition to this, the oil in the germs at times clogged the burrs and produced heating which could not be prevented by aspirators or other artificial appliances. All in all the product was less valuable and the flour lost some of its strength and baking qualities.

The accumulated experience of a large number of systems of all kinds, artificial burrs, metal and porcelain rollers, etc., prove clearly that in order to obtain good results, the grain must primarily be cleaned in the most thorough manner, no matter how heavy the loss in weight. After that the grain must be slightly cracked between smooth rollers in such a manner that small stones and other impurities, having the same size as the grains, may be crushed or broken so that they can be separated. Then the grain is brushed again. The groove in the kernel is less deep after the slight crushing process, and the brush is able to penetrate it at the same time when it removes the germ, the epidermis, and everything which could prove injurious to a good product. Grain so cleaned and cracked, whether by rollers or burrs form the most important and advantageous part of modern milling; the work is lighter and the capacity increased with a smaller consumption of power; the manipulations are simple and quicker, and consequently more economical than in the high milling of the Hungarian system. If we consider the number of machines necessary for the erection of a mill according to the Hungarian system and their costs, the space needed, the number of employes necessary, the expenses pertaining to the maintenance, repairs and wear of the plant, and then inquire about the work done by the corrugated rollers of the first and second break, according to that system, we are forced to admit that the whole performance consists in nothing else than the effects of a good cleaning; for these two breaks produce 3 to 4 per cent. of a flour darkened by the impurities of the grain and mixed with

fragments of stones and earthy material, of which latter two the traces are found even in the middlings of the third break, and this really constitutes the weak spot in the system of high milling. In addition to this we must note that the non-cracked grain is, during the breaks, simply cut into a varying number of larger or smaller fragments, which afterwards must be disintegrated and reduced on smooth rollers, necessitating a larger number of machines for the production of the unquestionably beautiful high grade flour; but we must not omit to mention the large quantity of flour of poorer quality produced at the same time.

During the cracking of the kernels a large number will break along the groove, and in that condition they can be cleaned most effectually, and produce neither middlings nor flour. Kernels cut up by pressure will produce more flour because they expose more starch surface and partially or totally opened starch cells. Besides this when the cracked kernels arrive at the next break, their middlings are already formed, that is, the crushing has broken the cohesion in the internal parts and the largest portion of it can do without any further disintegration. Flours produced in this manner are perfectly pure and have not lost anything of their quality. This system to crack the grain before grinding, is not new and has been used in mills more than 30 years ago. The largest number of these establishments retain it to the present day and this testifies its value better than anything else; the only improvement made consists in passing the cracked kernels through a scalper and a subsequent brushing.

We know that the gluten cells as well as the embryo of the grain kernel are injurious to flat milling; indeed, if we consider that a sack of flour weighing 100 kilos contains about 500 grammes of oil (African wheats contain at least double that quantity), we must acknowledge that a clotting or a heating of the mills is as unavoidable as the loss of the keeping qualities of the flour produced by that system. High milling with rollers, which, however, may be carried on just as well with burr stones, can be regulated in such a manner that all the disadvantages of flat milling disappear. As the grain is not all reduced at once, neither gluten cells nor embryo are broken, but can be separated from the flour and mixed with the bran. This is the enormous advantage of the roller mill and no establishment which desires to produce flour according to a rational system will ever be without them.

Another point in favor of the roller mill consists in the disintegration, the separation of the bad constituents from the middlings; which can then be reduced by itself. Such middlings can be reduced to a minimum size and finally ground on good burrstones, thereby producing a strong white flour of good baking qualities. It has been tried in practice to grind the good middlings with rollers, but the product, especially under chilled rollers, consists in lintel shaped compressed middlings and necessitates another machine for their disintegration. A flour produced in that manner does not absorb the water for baking as rapidly as that which obtained its final reduction from burrs although it look brighter and more glossy on account of the larger number of unopened starch cells. The final reduction of midd-

ings into flour by chilled rollers necessitates a heavy pressure which produces an injurious heat, while the first mentioned reduction on burrs give a good flour without heating, providing the stones are kept in first class order, have large openings, many free entrances for the admission of air, and do not run at too high a speed. If we want to obtain all the good flour present in the poorer middlings, a porcelain roller mill is advisable and preferable to stones. We must not be influenced by a series of trials and tests in the formation of our opinion about a general milling system suitable for all kinds of grain; it is, however, certain that we are on the right road towards that end if the accumulated experience of a large number of millers from different countries is to be considered of any value; and if we then retain that which has proven the best. It is a well-known fact that it is not advantageous to handle the grain very roughly, i. e. subject it to the action of machines which work with a very large surface or under very high pressure. Roller mills answer the purpose better than anything else, but they, too, must be neither too large nor too small. For the reduction of the middlings, on the other hand, we need a large working surface, and here the burr stones have the advantage. In conclusion it is acknowledged that the half high milling with good-cleaning, good bolters, etc., rollers of practical construction and dimension, and good old or new burrs, forms the best and most advantageous system for the millers.

EXPERIMENTS IN WHEAT GROWING, WITH A VIEW TO INCREASE ITS GLUTEN CONTENTS.

The following report, contributed to the *Paris Journal de la Agriculture*, by M. Gatellier, and which also appears as an appendix to the volume just published, relating to the recent milling experiments in France, is taken from the *Millers' Gazette*. The object of the experiments in milling undertaken by the Flour and Grain Board of Paris has been to furnish the French miller with information concerning the different methods of flour manufacture and to thus arm him against foreign competition.

It is undeniable that the exports of flour of France have diminished during the past few years, and that after having reached the annual figure of more than 2,000,000 quintals (1,000,000 barrels) they are now reduced to about 100,000 quintals (50,000 barrels), while the imports have largely increased each year. The following table of French exports and imports of flour since 1875 show exactly this inverse movement:—

Year.	Imports. Qntls.	Exports. Qntls.
1875.....	28,888	2,144,710
1876.....	40,607	1,307,426
1877.....	63,418	1,086,003
1878.....	74,437	363,084
1879.....	119,252	191,092
1880.....	280,392	151,588
1881.....	235,693	166,941
1882.....	326,656	97,412
1883.....	430,908	122,823

In order to reverse this condition of things and to produce enough flour for home consumption it is at least necessary that the native article be as good as the foreign. Now in all industries two things are essential: First, good work; second, good material to be worked. We hope that the results of

our experiments in milling will be to give our millers useful hints, but foreigners will also make use of them in the same ratio and we will still be behind, if the quality of our wheat is inferior to the American, the Australian and Hungarian. Not only is it necessary at harvest time that we take all possible precautions to secure the wheat in as good a condition as foreign wheat, but it is also demanded that the wheat be as rich in gluten, that is, nitrogenous matter, as that of our competitors. The relations of gluten to wheat is as important as the relation of sugar to the beet, and it must be kept constantly in view. After three years' experiments in cultivation and in chemical analyses, with the help of M. L'Hote, assistant chemist at the agricultural institute, we are convinced that it is possible, by particular methods to raise at home wheat as rich in gluten as that obtained from virgin soil, rich in nitrogen, which has been accumulating during the ages, and which furnishes the gluten that makes such wheat so justly celebrated.

In order to raise a beet rich in sugar, two conditions must be fulfilled: First, the sowing of a seed from a beet known to be rich in sugar; second, cultivation in such a way that the soil shall not contain an excess of nitrogen, either from previous farming operations or from dressing. To raise wheat rich in gluten, these same conditions of selecting the seed and of cultivation must be complied with. For seeding, glutenous wheat should only be used. Unfortunately, just the opposite has been done, and we have abandoned the berry of our country, long in shape, and adopted the round plump wheat of England. Examined under the microscope, a transverse section of a grain of long wheat shows more gluten than a section of a round berry, because the gluten is placed close to the bran rather than at the centre; consequently, the more spherical in form the berry, the less gluten it contains, while the more it is elongated, the greater the proportion of gluten. On the other hand, the berry must not be lengthened (as in rye), the greater the proportion of husk, and, consequently, the greater product of bran at the expense of a diminished yield of flour. The tendency has been to fall into the error of sowing the plump English wheat and gaining quantity at the expense of quality. It is certainly possible to propagate a variety of wheat of just the right length, by carefully crossing the different species in the manner indicated by M. Vil-morin.

After having chosen the right kind of seed, the method of culture to be pursued is just the opposite of that employed for the beet, because the matter analogous to the sugar in that vegetable, the starch in wheat, is to be reduced instead of increased. If, by growing beets in soil barren of nitrogen a large proportion of sugar is obtained, in order to obtain a minor proportion of starch in wheat, and a major proportion of gluten, the soil must contain a good percentage of nitrogen. This system of culture is more difficult to carry out in wheat than in beets, because if there is an excess of nitrogenous matter in wheat soil, it is likely to result in lodging and rusting of the grain. These dangers can be avoided in such cases by the use of superphosphates. But if wheat is grown in a soil weak in nitrogen, for instance,

after beets, without having supplied, by means of manure, the necessary proportion of nitrogen to correspond to the minerals which the earth contains, the result is a grain that ripens well and has a fine appearance, but which is deficient in gluten. We sowed in 1881 in Luzancy, Victoria white wheat under three different conditions, as follows:—After the sugar beet, after oats preceded by a crop of Lucerne grass, and after a crop of minette, the land being dressed with 30,000kil (about 33 tons) of manure to the two acres. Each lot of wheat presented a different appearance, the handsomest being that raised after the beets. Each lot was harvested and milled separately, and M. L'Hôte analysed the flours with the following results:—

	Nitrogen.	Gluten
After the beets.....	1.45	9.06
After the oats.....	1.61	10.06
Manured land.....	1.68	10.10

This result shows that the wheat raised after beets, though fine looking, is poor in gluten. The question now arises, is it possible to augment the amount of gluten in wheat raised after beets by the use of nitrogenous dressing? We sowed in 1882 a number of fields of the same kind of soil with Victoria white wheat, all of them after beets, but with different quantities of dressing. Each lot of grain was milled separately, and M. L'Hôte reports his analyses of flours as follows:

Proportion of Nitrogen to Phosphoric acid in the Manure.	Per cent. of Nitrogen in the Flour.	Per cent. of Gluten in the Flour.
4.9	1.67	10.43
8.9	1.82	11.87
12.9	2.04	12.75
6.9	1.81	11.31

Manure to the hectare (2 acres)	231 lbs. sulphate of ammonia	663 lbs. superphosphate	449 lbs. sulphate of ammonia	663 lbs. superphosphate	663 lbs. sulphate of ammonia	663 lbs. superphosphate	663 lbs. sulphate of ammonia	1326 lbs. superphosphate
---------------------------------	------------------------------	-------------------------	------------------------------	-------------------------	------------------------------	-------------------------	------------------------------	--------------------------

The above table shows that it is possible to increase the quantity of gluten in wheat by proper dressing, and that it depends upon the proportion of nitrogen in the dressing as compared to the mineral matter. In presenting this question of the quality of wheat to the farmer and the miller, in the same way that the question of the sugar beet has been laid before the farmer and the refiner, I have felt the patriotic desire to marshal our forces against foreign competition, to repel the present invasion of the products of other countries, and I hope to soon see the time when we shall become exporters ourselves.

THE APPRENTICESHIP QUESTION.

The following is an abstract from an exhaustive paper, read by Mr. Thomas Hampson at the recent meeting of the American Association at Philadelphia:

A few years ago the writer visited the room of the Supervising Architect's Office at the Treasury Department in Washington, in which the models for the sculptured ornaments of the public buildings throughout the Union are prepared. Remarking the foreign air of the men he saw at work there, he asked the gentleman in charge, a Frenchman by birth, how many Americans were employed. "Only one—the laborer," was the reply.

The fact just stated affords an illustration

(although, of course, an extreme one) of the predominance in this country of artisans of foreign birth and education in those branches of industry into which art enters as an element. The men at work in that room had been trained in the technical schools of the different parts of the continent of Europe, from which they had come to do work of the kind on which they were engaged, and, although unacquainted with the language of the country in which they had come to live, had, nevertheless, readily secured remunerative employment. At the very time they did this, their official superior, the Secretary of the Treasury, was daily rejecting scores of applications for small pay clerkships from the native products of our schools and colleges. In France and Germany, from which a majority of these men came, the fact that apprenticeship virtually ceased years ago has been recognized, and the void its disappearance has made has been filled by the technical school. In the United States, where the decay of apprenticeship has been even more strongly marked, nothing has been agreed upon to replace it; and while, through the daily extension of machinery to new branches of industry, a specially trained head and hand are becoming more and more needed, this need is not distinctly felt, much less satisfied. To provide ourselves with the vast army of trained workmen we need, in order to compete successfully with foreign nations, almost our sole reliance is still placed in apprenticeship. It may, therefore, be reasonably asked:

1. Does apprenticeship, as actually in vogue among us, provide a sufficient number of skilled mechanics to satisfy our industrial needs?

2. If it fails to do this, does the system admit of such modifications or extension as will enable it to provide such a sufficient supply?

3. If this question must also be answered in the negative, with what shall apprenticeship be replaced?

It would be easy to show by elaborate citations from recognized authorities that the apprenticeship existing among us utterly fails to supply any adequate number of proficient artisans for our extensive and growing industries. One reason for this is the almost incredible sub-division of labor practiced in the most flourishing of our modern American industries. In the manufacture by machinery of the Waltham watch there are about 1000 distinct operations, there being eighty-four on the balance wheel alone. The mechanic nowadays who makes the whole of an article is indeed rare. Labor-saving machinery has largely driven out handiwork, and the administrative shrewdness of manufacturers has led them to divide their employees (boys as well as men) into sections occupied exclusively and continuously with only one part of the work. Under these circumstances a successful manufacturer feels that he could only receive apprentices by turning his lucrative shop into a charity manual labor school.

The obstacles in the way of effecting such modifications in the system as would adapt it to our changed industrial conditions seem to me insuperable. The field of beneficial legislation in this direction is a narrow one. The tendency of both youths and employers to frequently change their vocations would be quite unaffected by any legislation respecting it that could be devised. If Mr. Corliss (to take a good striking example) followed several occupations during his youth and early manhood, and only after maturity entered a machine shop to invent the great improvement in steam engines with which his name is honorably identified, you will find it hard to convince a bright and ambitious American boy, and most American boys feel ambitious and know that they are clever, that he must go through a long and tedious course of apprenticeship

to enable him to successfully grapple with mechanical problems similar to those which others have so brilliantly solved without any such preparation. The minute sub-division of trades alone would usually place it out of the power of an employer to provide his apprentice with a good technical education.

To ameliorate the present deplorable condition of industrial education among us, the first step, I think, should be to induce every manufacturing city of any considerable size to afford its youth good scientific instruction in the evening. The instruction should be free, or very nearly so. Drawing should be the most prominent feature of the teaching, because its applications are so various; but, besides this, there should be given to every youth growing up in a shop, or about to enter one, an opportunity to acquaint himself with the principles of science involved in his daily work.

For instruction in the daytime I think there should be found in every manufacturing city of consequence, one or more manual labor schools well equipped with laboratories, to be attended by a succession of four or five volunteer classes from the public schools during two or three hours every day.

Taxation for schools in our large cities has already reached very high figures, and it is to be hoped that private enterprise and individual philanthropy would do much to diminish the cost of such changes as those recommended, but, while municipalities sustain high schools in which one per cent. of the total school attendance causes 25 per cent. of the total expenditure, there is no occasion for any compunction about instructing the few at the expense of the many.

PIONEER PIETY.

In consecrating a new church edifice at Bismarck, Dakota, recently, the managers made a mistake in omitting all reference to the start which religion made in that town in the flush times of early days. As a bit of history it is important, and as a revelation of what pioneer preachers had to confront it is interesting.

Bismarck has not always been the law-abiding peaceful city it is now, and when it was young, literally on wheels, a class of denizens crept in who were not at all particular what color the town was painted as long as it was painted red. One of the chief industries of the village was gambling, and the others were getting drunk and impregnating the atmosphere and fellow citizens with cold lead. The pastimes were raiding adjacent Indian camps and tearing down the local Opera House when the performance failed to come up to the literary taste of the audience. There was a dim, misty notion that somewhere on the earth there were people who practiced a scheme called "Religion," but how it was done, or what the dividends were, found no exponents around Bismarck, wherefore it was with great surprise that the busy village learned one Saturday morning that a parson had arrived and was busily engaged in perfecting arrangements to hold divine service the next day. As a new kind of a game, they were naturally interested in it, and all hands prepared to take a hand if they saw any chance of winning on the investment. There were some men in town who naturally believed that the pious name concealed some new gambling device, and they were anxious to be posted that they might "place sucker" to the next man who turned up with it, and thereby win his money while he should think that he was dealing to new hands.

The question as to the place in which the exercises should be held aroused the town to unwonted activity. Whatever they might prove to be, they would certainly prove remunerative to the bar, and every saloon was

offered the dominie in which to exploit himself, with the assurance that the rent would not only be free, but his personal rum would be without any expense to himself. Other and equally powerful inducements were held out, until enterprise finally threw itself into the form of finances, and the competitors bid high against each other for the privilege of introducing the new feature. To the hard-headed and experienced merchants, who saw nothing but money in every venture, this aspect was peculiarly satisfactory. They advised the parson to hold off until the top notch price had been reached, and even suggested a joint stock company in which they stood ready to meet as soon as it should be organized.

The bewildered preacher scarcely knew what to do. He wanted money for his church, but he shrank from taking "the wages of sin," as he called the profits of saloon-keeping. This position was warmly combated with much strength of gesticulation, and not a little profanity. The dominie was obdurate; and, at the point where a riot was imminent, a gambler cut the Gordian knot by offering his extensive faro-rooms for the approaching entertainment. It was the easiest way out, and the grateful parson eagerly seized upon the offer.

It was a peculiar congregation that faced the dominie the morning of his sermon. Not a face displayed the slightest curiosity, for the audience was composed of men accustomed to conceal their emotions behind impassive visages, and they did not propose that the stranger should find them prepared for any exhibition of surprise by any kind of a show that he might open. The faro-table was offered him for a pulpit; and, spreading his notes on the "lay-out," he went in in spite of some natural nervousness.

Parson Miller was a man who had seen a good deal of the world, was a good judge of men, and had the peculiar faculty of adapting himself to his surroundings. All this enabled him to preach a sermon that applied immediately to the understanding and appreciation of his auditors. Whether it affected them or not could not be gathered from their looks, but the frequency of the applause testified that they knew what he was talking about.

At the close of his prayer, the parson announced that he wanted his congregation to select a hymn and sing it. Perhaps his object was to learn whether his discourse had aroused any reminiscences of early youth and possible religious training. But the effect on the audience was startling. Natural politicians, they straightway began caucusing, and it was shortly apparent that there were factions and factional disturbances. The dispute ran high, but was wholly unintelligible to the parson, who was not a fluent scholar in gambler's slang. Committees were appointed to confer, but no agreement was reached, and the congregation finally divided into three parties.

The dominie asked if they had made a choice of hymn, to which a man arose and explained that they had not. He had expostulated with his friends, but to no purpose. There was one hymn he would like very much to sing, and others preferred to attempt other hymns, to settle which they had agreed to hold an election and accept the one chosen by the majority. To that end he would put in nomination one against which no breath of scandal could be raised in his presence. He had known it for years and respected it. Now was the time for his friends to stand by him, and he took pleasure in nominating that standard and grand old anthem, "Villikins and his Dinah!"

The staggered dominie was about to protest when another man arose and said he thought all enterprises were benefitted by an infusion of young blood. He was not prepared to assail "Villikins and his Dinah,"

but he felt that they could not satisfy the people, and therefore he should vote against them. He would place himself in the hands of his friends and nominate "The Son of a Gambolier!"

It dawned on the preacher that the exercises had passed out of his hands, and he concluded not to interfere.

A third man took the floor and announced that never before had he bolted a nomination by the regular party, but the time had come when he felt no longer bound by party affiliations, and he should show his manhood by breaking loose from party ties and putting in nomination as an independent candidate, that touching and soul inspiring hymn, "Whoa, Emma!" He admitted that his faction was small, but he hoped to draw enough votes from the other candidates to defeat them and thereby elect his hymn.

The polls were opened without delay, and the balloting commenced. It was an exciting time, and there was one or two fights, but otherwise everything was pleasant, and when the votes were counted it was announced that "Whoa, Emma!" had won by a small majority. Then the audience arose as one man and sang the "hymn" with a vigor that shook the furniture. The parson did not join, but he stood with them and pronounced the benediction without any comment on the singing.

He thought his work finished, and was somewhat startled by the suggestion of a posted man that he had not taken a collection. But still more was he surprised when his hat had gone around and he found it full of red, white, and blue faro-checks. But if that surprised him, he was astounded when he learned that the game would be opened for him and he might play in his checks, or cash them, as he chose. Contrary to all advice he cashed them, and when he left he saw the congregation flocking around the table and preparing for the game.

There are churches in Bismarck now, and some civilization, but old inhabitants still remember the first sermon and its variegated aspects.—*Drake's Traveller's Magazine.*

PORCELAIN ROLLER MILLS.

In an article upon "One-Sided Journalism" in its last issue the *Milwright and Engineer* refers to attacks that have been made by interested parties upon porcelain mills, and says:

Their most bitter opponents are forced to allow that they will do as good work, and their advocates know that they will do better work than iron rolls, either smooth or scratched. The only objections urged against them are: (1) Their capacity; (2) their liability to breakage, and (3) their wearing out of true. To the first objection it is answered that quality of work done is more important than quantity, and that they are fully equal to all reasonable demands upon them. When a double nine-by-eighteen machine will reduce seven hundred thousand pounds of middlings per hour, and do it better than scratched rolls in the same frame and on the same stock, it is idle to talk about lack of capacity. And we know of numerous instances where a machine of the above size has taken the place and done the work of a four-foot run of buhrs with much better results. To the second objection it is admitted that in the first machines introduced in this country there were some mechanical imperfections. These have since been overcome and the machines as at present built, extending back over a period of nearly two years, have given the users as little trouble and have caused as little complaint as an equal number of machines with iron rolls. Only three instances of breakage have been reported, two of them from the same machine in the same mill, and evidently from the carelessness of the miller; and the other, as admitted by the owners themselves, from heavily overcrowd-

ing the machine. It is probable that in the future the machine will be still further perfected, but even as built at present there is no excuse for breaking the porcelain shells except carelessness. To the third objection it is answered that the porcelain rolls are not intended for all kinds of stock indiscriminately, and further, that much of the difficulty complained of comes from the unskillful handling to which the rolls have been subjected. This complaint is not only against porcelain rolls. We have had scratch rolls and coarser corrugated rolls come back to us for repairs on which the corrugations were stripped off the whole length of the roll and others where the shafts were sprung by careless handling. We have had smooth rolls come back worn hollow from lack of attention in keeping the rolls level. These faults were not of the rolls but of the handling to which they had been subjected and the lack of proper attention bestowed upon them. When it is remembered that rolls have been in general use but a very short time comparatively, and that millers have had to learn how to use them by experience, it is not to be wondered at that the machines have suffered. It is rather to be wondered that the complaints have been so few and the general results so excellent. Milling is, of all arts, one of the most experimental, and it is certain that with increasing skill on the part of the operative miller, not only will the general results be better, but there will also be a better appreciation of the fact that, no matter what may be the merits of any machine, it can only be rendered valuable by intelligent handling and careful study.

THE STATE OF TRADE.

There were a half dozen of them spending a recent Sunday together in an Ohio town. There was a soap man of Cincinnati, a baking powder man of New York, a tourist of Tiffin, an evangelist of Evansville, and a cutlery man of Kalamazoo. They had just returned from church, and, while waiting for dinner to be called, their minds gradually drifted back—far back—to the sordid cares of earthly life. The silence having become oppressive the genial soap man said abruptly to the man of Tiffin, "How are churns now?"

"Well," said the latter, after his mind had wobbled back to a familiar subject, "I've traveled a heap in my time, and passed through some dull seasons, but this one just takes the biscuit, together with the butter left in the ice-chest. The fact is, the very dry weather, together with hard times, has just knocked the bottom out of churns, and I tell you its discouraging to try to sell churns with the bottoms knocked out. How do you find soaps?"

"I've been having a fair trade until recently," said the genial soap man, "but just now things in my line are very slippery and difficult to catch onto. Everything seems to have sunk to the bottom except one piece of goods we make; but that, I guess, will float the year round. Nevertheless, the prayers of this congregation are earnestly asked in our behalf."

Then the cutlery man said that he was trying to make every edge cut, but things in his line were so very dull that he had come to the conclusion to saw his route in two in the middle, and skip home to razor row with the firm. After recovering sufficiently, he turned to the evangelist of Evansville, and asked: "How are shoes?"

"Terribly down at the heel," said the latter. "The very life of the business—the sole, so to speak—seems in jeopardy. I'll tell you how it is. You see we pinned our faith to one of these weather prophets and had made up for this fall's trade a lot of shoes with extra heavy bottoms, thinking we would be in good shape for the wet weather when the first fall month sailed in.

You can guess the rest yourself. Everybody knows that a heavy bottom on a shoe is an objection that will gradually wear away, but it takes time, and this doesn't seem to be the time. Business I can tell you, isn't what it was a year ago, by any means. I wonder if the weather has any effect on the baking powder trade?"

"Decidedly," said the baking powder man. "Before the late rain came things in the baking powder line were awfully flat. When there was a little moisture thrown in they began to rise, and now they are coming up beautifully." Then the congregation smiled and adjourned to the next room to see a man who has a good trade all the year round, and smiled again. The baking powder man had to pay the bill.—*Ex.*

A WRITER in the *Rural New Yorker* says: Since the thrashing was done, we have been feasting on "cracked wheat"—home-made. The children are so fond of it that they want to prepare more than we can use. And this is the *modus operandi*: It is taken from the granary as the separator leaves it, picked free from all sticks, and dirt, rye, dust, etc., by turning it from one hand to the other. This we think cleanses it sufficiently without the trouble of washing and drying, as some treat it. Clean the coffee mill with a little wheat—a hand grain mill would be better, but as we have none we do the next best. Grind the wheat through with just sufficient "set" to crack each kernel. Put to cook in a long covered pail in a kettle of boiling water, adding to the wheat about twice as much water as wheat. Of course, a "farina kettle" is the article to use, but we backwoods farmers don't have all these conveniences, so we make a virtue of necessity, exercise our inventive genius, and improvise such articles as are needed. Boil one hour or longer. Put into bowls or cups to cool. When needed, turn out on a plate, and if you have not done as I do occasionally—put too much water on the wheat—you will observe I do not always follow my own rule and measure quantities, you will have a dish, when dressed with good cream and sugar, fit for a king or a farmer's baby.



HOW DOES THIS SUIT?

"Cooch's Bridge, Del., Aug. 25, '84.
"Messrs. Kreider, Campbell & Co.,
"Philadelphia, Pa.

"Gentlemen: Your machine was sent here against an —, on condition that we should keep the best, and we tried each machine, and are frank to say that if your machine cost us \$500 and the other was offered us as a present we should take yours, as we cannot find a fault with it. The above machine has a capacity of 50 bushels per hour."

We think best not to publish name, but it will be given upon application. Address, KREIDER, CAMPBELL & CO., Philadelphia, Pa.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,
Columbus, Ohio.

Office and Factory, 5th Street, north of Naughten.

BUCKWHEAT FLOUR

Always commands a better price, and gives better satisfaction to the consumer when made by the aid of Crausons' Silver Creek Roller Buckwheat Shucker. This is a fact which we can demonstrate to any miller who will write us.

G. S. CRANSON & SON,
Silver Creek, N. Y.

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1½ cents per word for one insertion, or 4 cents per word for four insertions. No order taken for less than 50 cents for one insertion, or \$1 for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

WANTED.

A Miller, competent and who has had experience with rolls. COLTON BROS., Bellefontaine, Ohio. 288

SECOND-HAND WATER WHEELS.

Several Lefel water wheels, thoroughly repaired, and in good order. Write for sizes, condition, prices, etc., to JAMES LEFEL & CO., Springfield, Ohio. 2027

WANTED.

A practical mill man for a partner, or will sell a first-class merchant mill, with cotton gin attached. Finest location in America. Address, JOHN ESTES, Abilene, Taylor county, Texas. 1881

FOR SALE.

Two Double Odell Roller Mills 9x18; One Double Allis Roller Mill 9x18; One No. 1 Double Case Purifier. We want to buy a 9x30 Double Roller Mill. COLTON BROS., Bellefontaine, Ohio. 286

FOR SALE.

The undivided one-half or whole of a three-run Flour Custom Mill. Never-failing water power can be had on reasonable terms. Situated in a fine wheat country. Reason for selling, poor health. Address, L. G. BISHOP & CO., Argentine, Genesee county, Mich. 2124

FOR SALE.

A 50-barrel water power flour mill, situated in best wheat growing section in Ohio, on P. F. W. & C. R. R. Machinery almost new. Good town and good local trade. Twenty-five acres land, two dwellings, stables, plenty fruit, etc. For further information address O. M., in care of THE MILLING WORLD. 1441

A BARGAIN.

One 16-inch under-runner, full iron frame, middlings mill, made by C. C. Phillips, Philadelphia. It is brand new, has never been used, and will be sold at a big bargain as I have now no use for it. Address C. 91, care THE MILLING WORLD, Buffalo, N. Y. 17

YOU CAN BUY THESE CHEAP.

Three McCully Corn Cob Crushers. The above articles are brand new, in perfect condition, just as they left the factories, and will be sold very cheap for cash. Address S. 30, care THE MILLING WORLD, Buffalo, N. Y. 17

FOR SALE CHEAP.

One 6-horse power engine and 10-horse power boiler, all complete, price, \$350; one 8-horse power engine and 10-horse power boiler, price, \$375; one 10-horse power Portable complete, price, \$380; one 10-horse power Russell Traction, price, \$500; one 4-horse power vertical engine, price, \$120. Call or address for particulars EZRA F. LANDIS, Lancaster, Pa. 262

FOR SALE.

A four-run New Process water power flouring mill, and 160 acres of very choice land; 40 acres of young timber. Situated in Colfax county, Neb. Mill in good repair. A never-failing water power. All facilities for making first class flour. A good chance to do a first-class paying business. Owners desire to go into other business. This property will be sold at half its cost. Address, J. A. GRIMSON, Schuyler, Colfax county, Neb. 174

FOR SALE OR EXCHANGE.

A nice Roller Flouring and Exchange Mill. Three 20-inch turbine wheels, never-failing water power (creek), 12-ft. head; house and lot near mills; located in one of the best winter wheat sections in the state of Ohio, on line of railroad, in a nice little village. The mill was newly fitted up last spring for a full roller process. Plenty of wheat can be obtained from farmers to keep mill running. Also a saw mill and cider mill with good buildings. Please do not write unless you mean business. Address, S. C. McMASTER, Canton, Ohio. 23

CUSTOM MILL FOR SALE OR TRADE, OR WILL RENT FOR A TERM OF YEARS.

Steam power, three sets rolls, three sets burrs, centrifugal reel, separator, smutter and purifier. Five flour reels, double conveyers, reels newly clothed; new belting throughout the mill; nine stands elevators. Mill building frame 80x40; 2½ stories above basement; in A No. 1 repair. Two railroads, mill near switch. Also dwelling of 7 rooms. Wheat plenty and of good quality, delivered at mill door. Property located at Minier, Tazewell county, Ill. Parties who mean business, and no others, requested to correspond with B. F. BERGEN, Minier, Tazewell county, Ill. 8223

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1½ cents for each additional word. Cash with order. Three consecutive insertions will be given for the price of two.

SITUATION WANTED.

By a miller who understands the "Roller System." Good references. Address, LOCK BOX 84, Niagara Falls, N. Y. 1830

WILHELM & BONNER,
Solicitors of Patents,
Attorneys and Counselors in
Patent Causes.

No. 284 Main St., Buffalo, N. Y.



PUBLISHED EVERY THURSDAY BY
THE AMERICAN INDUSTRY PRESS
 (LIMITED.)

OFFICES, LEWIS BLOCK, SWAN STREET,
 BUFFALO, N. Y.

G. B. DOUGLAS, - - Managing Editor.
 THOS. McFAUL, - - General Agent.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; can be remitted by Postal order, registered letter, or New York Exchange. If currency is enclosed in unregistered letter, it must be at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Card of Rates sent promptly on application. Orders for new advertisements should reach this office on Tuesday morning, to insure insertion in the week's issue. Changes for current advertisements should be sent so as to reach this office Saturdays.

EDITOR'S ANNOUNCEMENT.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with any manufacturing or mill furnishing business. Its editorial opinions cannot and will not be influenced by a bestowal or refusal of patronage. It has nothing for sale, but its space to advertisers and itself to subscribers.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

MILLERS' ASSOCIATIONS.

NATIONAL.....S. H. Seamans, Sec'y., Milwaukee, Wis.
 CALIFORNIA.....F. J. Parsons, Sec'y., Oakland.
 ILLINOIS.....C. H. Seybt, Sec'y., Highland.
 INDIANA.....Jos. F. Gent, Pres't., Columbus.
 IOWA.....J. S. Lord, Sec'y., Ogdun.
 KANSAS.....O. W. Baldwin, Sec'y., Ottawa.
 KENTUCKY.....W. H. Wherritt, Sec'y., Lancaster.
 MARYLAND.....J. Olney Norris, Sec'y., Baltimore.
 MICHIGAN.....W. Hibbard, Sec'y., Grand Rapids.
 MINNESOTA.....Frank Pettit, Sec'y., Minneapolis.
 MISSOURI.....David B. Kirk, Sec'y., St. Louis.
 NEBRASKA.....C. D. Smith, Sec'y., Lincoln.
 WISCONSIN.....S. H. Seamans, Sec'y., Milwaukee.
 TEXAS.....Mitch. Gray, Sec'y., Dallas.
 PENNSYLVANIA.....Landis Levan, Sec'y., Lancaster.
 OHIO.....Robt. Colton, Sec'y., Bellefontaine.
 NEW YORK.....J. A. Hinds, Sec'y., Rochester.

OUR CLUBBING LIST.

NOTE—You can save money by availing yourself of the following offers. You can please every member of your family by accepting one or more of the following offers. To save money, and at the same time make the family happy, ought to be the main object of every married man's life. See how you can do this.

Take these for Yourself.

THE MILLING WORLD, per year.....\$1.50
 WITH
The Builder and Woodworker.....(\$1.00 per year) 2.00
American Architect, weekly.....(6.00 " ") 8.50
American Architect, monthly.....(1.75 " ") 2.75
American Machinist.....(2.50 " ") 3.50
Mechanical Engineer.....(2.00 " ") 3.00
American Agriculturist.....(1.50 " ") 2.50

Take these for your Family.

THE MILLING WORLD, per year.....\$1.50
 WITH
Harper's Magazine.....(\$4.00 per year) 4.50
Harper's Weekly.....(4.00 " ") 4.70
Harper's Bazar.....(4.00 " ") 4.70
The Century.....(4.00 " ") 4.50
Frank Leslie's Illus. Newspaper.....(4.00 " ") 4.50
Frank Leslie's Popular Monthly.....(2.50 " ") 3.50

Take these for your Children.

THE MILLING WORLD, per year.....\$1.50
 WITH
St. Nicholas.....(\$3.00 per year) 4.00
Harper's Young People.....(2.00 " ") 3.00

INDEPENDENT MILLING JOURNALS.

WEBSTER gives the definition of the word Independent, as: "Not dependent; not subject to the control of others; not relying upon others; not subordinate; not subject to bias or influence; separate from; exclusive." Every milling journal is dependent in that it must secure support or entail loss upon its publisher. This support is supposed to be made up in the form of subscriptions and advertisements. When this, that, or the other milling journal asserts that it is "independent" the impression sought to be conveyed is that it is not subject to the control of others; that it is without bias, and not susceptible of influence,

or subordinate, in its policy or utterances, to anyone except its publishers. In other words the reader is asked to accept it as being entirely separate from the control or influence of any dealer in, or manufacturer of, milling supplies or machinery. It has the right to illustrate and describe new milling systems, appliances and methods; to note the character and drift of trade; to devote time and space to the description of new milling enterprises, and to chronicle what is being done by its advertising or subscribing patrons. All this it may do without ceasing to be wholly independent, but if comparisons, detrimental to the interests of any one of its patrons, be made, be that patron advertiser or subscriber, then its right to the distinction of independence is forfeited, as such a course would plainly and conclusively prove it to be "biased" or "subject to influence." We are led to these remarks by reading the following editorial in the last number of the *Millwright & Engineer*.

In some respects the independence of certain milling journals is like the independence of certain political journals just at present, for no matter how strongly the claim of independence is set forth in the one case, the indications of prejudice born of business connections are too plain to be mistaken, as in the other case the indications of prejudices born of personal grievances are too plain to be mistaken. In the case of the milling papers it would appear that the most respectable and profitable course would be to sail under true colors, for few millers are deceived by the masked ownership under the name of publishers instead of the virtual directors of the policy of the papers in question. The *Millstone* is not less the organ of the Nurdyke & Marmon Mfg. Co.; the *Roller Mill* is not less the organ of the Noye Mfg. Co.; the *Modern Miller* is not less the organ of the Barnard & Leas Mfg. Co.; the *Miller and Manufacturer* is not less the organ of the Simpson & Gault Mfg. Co., because the names of the respective firms do not appear as publishers. In a certain sense these papers are independent in inverse ratio to the ability of their respective nominal publishers, and in direct ratio to the respectability of the actual owners or controllers. Independence in any paper, when real, does not have to be proclaimed from the house-tops to be recognized, and on the other hand, an independence which manifests itself in the most bitterly prejudiced attacks on the business competitors of the owners of the papers professing to be independent is sure to be mistrusted. In one way a milling paper, or any other trade paper, whether published avowedly by or indirectly in the interests of any firm engaged in the trade which it reaches, may be honorably independent. It is or should be, independent of its advertising pages, in opinion, although it cannot be independent of its publishers. So long as such papers treat matters pertaining to their trade with fairness, it is immaterial to their readers whether the business interests of their publishers are advanced by their publication or not, and so long as a professedly independent paper treats matters pertaining to its trade unfairly and with prejudice, it is material to its readers that it aims to advance the interests of its actual owners, who are either ashamed to assume the responsibility of its publication or are desirous of evading the government regulations on the matter of postage.

The *Millwright and Engineer* hangs boldly to its pages the name of Edw. P. Allis & Co., as its publishers, and while it is conducted by Mr. Albert Hoppin, whom every miller in the country knows at least by reputation, no attempt is made to conceal the fact that it is issued primarily to advance the interests of its publishers, and to afford them a special vehicle by which the claimed merits of their specialties of manufacture might be made known to millers in language as strong as they might choose to employ. In its conduct, however, no invidious comparisons have been made between the machinery and supplies made by its publishers and those of other, and competing, firms. It has recognized, seemingly, that any other course would result, eventually, to the decided detriment of its publishers, and to the advantage of their competitors, so it has been content to plainly specify the merits of the machinery manufactured by Messrs. Allis & Co., allowing such of their competitors as have the facilities, the same privilege. The remarks we have quoted have been drawn out by unwarranted attacks by *The Roller Mill*, of this city, upon the merits of porcelain roller mills. E. P. Allis & Co. are the only firm in this country which has a legal right to manufacture and sell porcelain roller mills, and are the only firm which does manufacture and sell them. This firm has spent a

vast amount of money in introducing them to the trade; in making good such deficiencies and imperfections as the earlier machines were found to possess, and in adapting them to the requirements of American millers. They have built up a trade and demand for these machines that has at length proved lucrative for them and advantageous for the miller. They are entitled to credit for their persevering labor, and it should be known that all attacks upon, and derogatory remarks concerning, this particular line of machinery which have appeared in *The Roller Mill* are but the vaporings of an independent milling journal which is most decidedly not independent. In conclusion we will simply say that any machine which is, in the estimation of a competitor, worthy of attack, may be very safely set down as possessing features of merit of which the attacking party has dread.

OUR grain speculators, unable at present to make anything out of wheat in the line of "corners," have most industriously applied their energies to corn, and succeeded in establishing a very respectable corner in that commodity. These things seem necessary once in a while to teach a lesson to the average people, and after a sufficient number of lessons have been gone through, the corner manipulations will undoubtedly become a thing of the past, and will be looked upon in the same way as we look upon the transactions of the "knights of the road" of the middle ages. Of course this requires time and life seems so short. Yet social reform is a thing of slow growth, and must not be hot-house-forced, if it is to be permanent and healthy. So we will have to arm ourselves with patience, do all in our power to diffuse knowledge everywhere, and entrust the rest to the future. In a republic like the United States, a law, in order to be more than a dead letter, must be supported by the sentiment of at least a strong intelligent minority, and it is fair to state that but few people, outside of the initiated, have any conception of the "corner" business. Consequently, laws enacted to prevent the recurrence of such manipulations, will do more harm than good, and it is best to allow these things to run their natural course, *i. e.*, allow legislation to step in when the sentiments of the people have been sufficiently educated to require such a law, and not sooner. Unfortunately for the country high prices in corn will have a wider felt effect than high prices in wheat, not only on account of the larger masses, but because it is almost entirely consumed in the home demand. But that cannot be helped and must be looked upon as necessary for the evolution of healthy business principles in future ages, when gambling will be unknown and corners impossible. As soon as the time arrives when the gambler in stocks or produce is looked upon by the community at large in the same way as the petty gambler, who spends his last dollar at the green table, is at present, the reaction will set in soon enough; but not until then. As long as we make a wide distinction between the man who stakes one dollar on a card, and them an who stakes perhaps a hundred thousand on a "deal" in stocks or produce, we will have to submit to the inevitable and trust to the future and constantly advancing civilization.

THE fire record of the month of September, as made up by the New York *Commercial Bulletin*, shows that no previous September has seen so heavy losses. This is encouraging news indeed. Conflagrations are increasing altogether out of proportion to the growth of industries and population. While during 1875 to 1883 the average loss for September has been \$6,300,000, the corresponding month of the present year figures up \$9,200,000 and this does not in-

clude fires causing damages less than \$10,000. It would be interesting to compare the fire statistics with the records of meteorological observations, to determine whether extra dry summers exert any marked influence upon the numbers of fires as would be naturally supposed, or whether such a supposition is more imaginary than real. Between Jan. 1 and Oct. 1 the losses sustained by fire in the United States and Canada amounted to \$83,200,000, about \$11,000,000 ahead of the figures for the corresponding time of the past year. The losses by fires to flouring mills during the month of September foot up a very respectable sum; no loss smaller than \$10,000 is reported, and yet the sum total for the United States amounts to \$251,000.

VARIOUS causes have at times been assigned for the present low prices of wheat, the leading ones of which are over production on the one, and under-consumption on the other hand. In summarizing the results of his investigation into the causes of "cheap wheat," Mr. W. H. Walker, the statistician of the New York Produce Exchange states that the present low freights form an important factor in the consideration of this subject, and verifies his assertion by telling us that the ships have not made anything above their running expenses during the past eighteen months. The depressed condition of every form of industry throughout Europe is, we are told, another cause for the low prices of wheat. Such conditions engender a diminished consumption, because the amount of money circulating is smaller. But this reasoning does not appear to apply to bread, as that commodity commands as high a price now as when the wheat prices were high. The prices of bread really seem to be the most uniform all over the world, and appear to be but little influenced by the fluctuations of the flour and wheat prices.

WE have received, with the compliments of the Richmond City Mill Works, of Richmond, Ind., a copy of their new catalogue, which is, without exception, the finest thing in this class of literature yet issued by a mill-furnishing establishment. It is a book which all millers will keep, and therein lies its great value. The typographical work is excellent, the paper of fine quality, but the cover is its novelty, being a remarkably close imitation of alligator leather. The arrangement of the matter is good, and the index classified and complete. Send for a copy of it, if you have not already done so. It will prove a very handy thing to have about the mill office.

THE proposed American Exhibition in London in 1886 is received with universal favor by the British press. Now let some of our enterprising mill furnishers set up complete mills, send them to the exhibition and demonstrate by actual working the superiority of American machinery. Such a course may be beneficial in more than one way. Actual work performed at such a place after a careful elimination of any possible errors, will be looked upon as better authority than the longest array of figures derived from private life.

IN order to facilitate the better handling of grain in New York city, the grain merchants have recently appointed a committee for the purpose of conferring with the various trunk lines with regard to the feasibility of abolishing the tax of one cent per bushel now charged on the elevating of grain. The merchants claim that this tax has diverted millions of bushels of grain from New York city into other centers of commerce and has at the same time a tendency to destroy the usefulness of the elevators.

ESTABLISHED 1856.

EUREKA GRAIN CLEANING MACHINERY | GENUINE DUFOUR BOLTING CLOTH**OVER 18,000 MACHINES IN USE.**

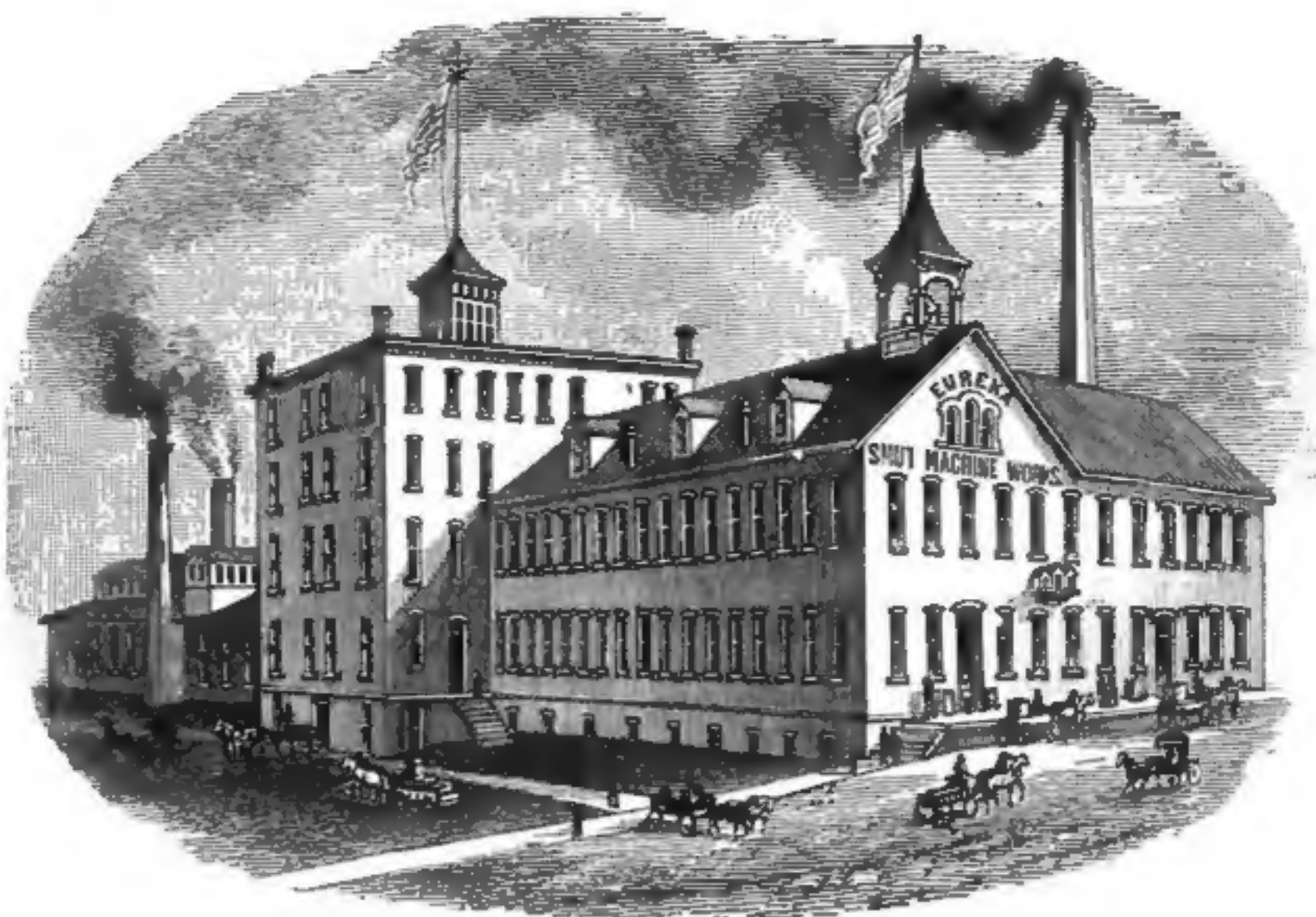
OUR LINE COMPRISES

The Eureka Separator,
The Eureka Smutter and Separator,
Eureka Brush Finisher,
The Eureka Magnetic Automatic Separator,
Silver Creek Flour Packer.

Our establishment is the oldest, the largest and most perfectly equipped of its class in the world, and our machinery is known and used in every country where wheat is made into flour.

HOWES & EWELL,
SILVER CREEK, N. Y.

European Warehouse and Office: 16 Mark Lane, London, E. C. Gen. Agency for Australian Colonies and New Zealand. Thos. Tyson, Melbourne, Victoria.



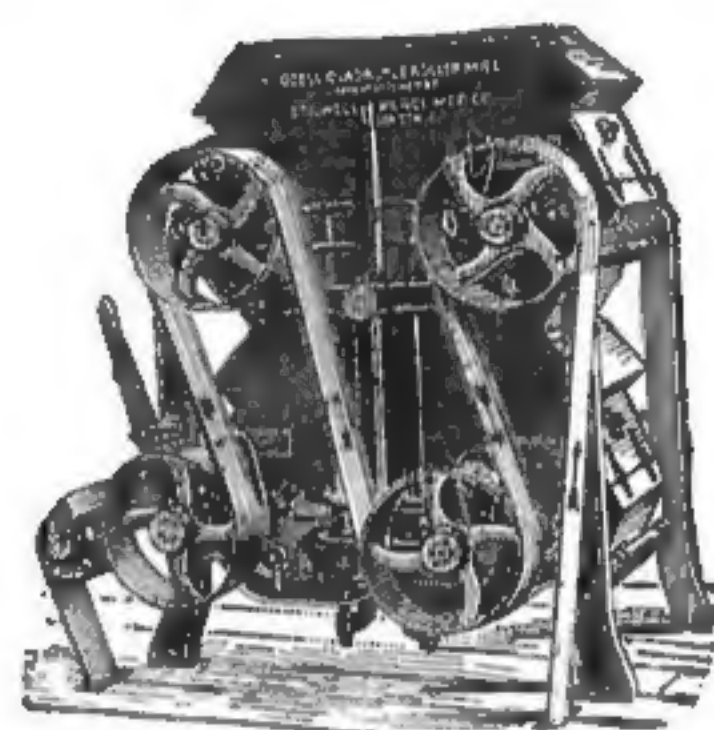
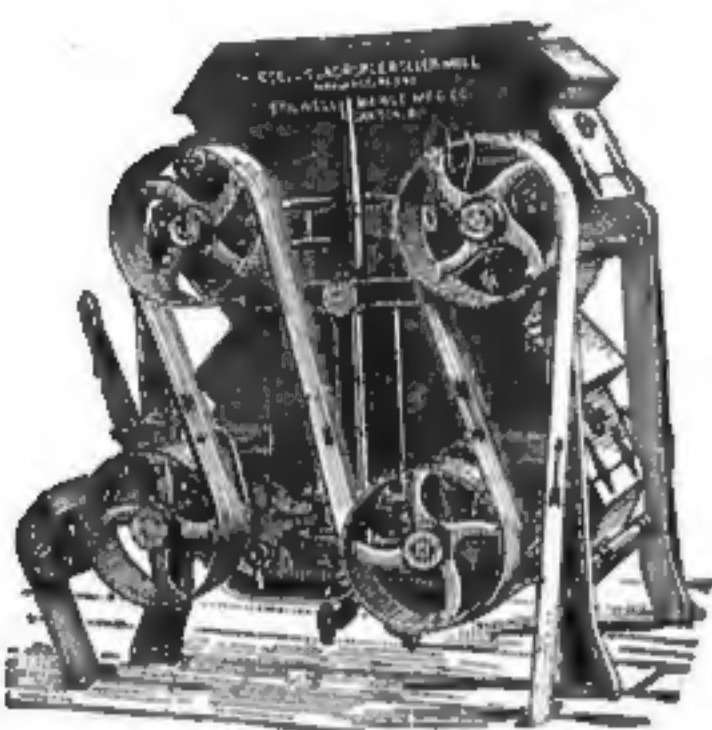
We handle this justly celebrated cloth in large quantities, and can fill all orders upon receipt. For such as may prefer a cheaper grade, we offer our

ANCHOR BRAND BOLTING CLOTH.

Guaranteeing it to be equal in every particular to any other cloth on the market, except the Dufour. We have handled it for years, have sold thousands of yards of it, and know it will fully sustain our representations.

Send For Samples of Cloth, Our Style of Making Up, and Prices.

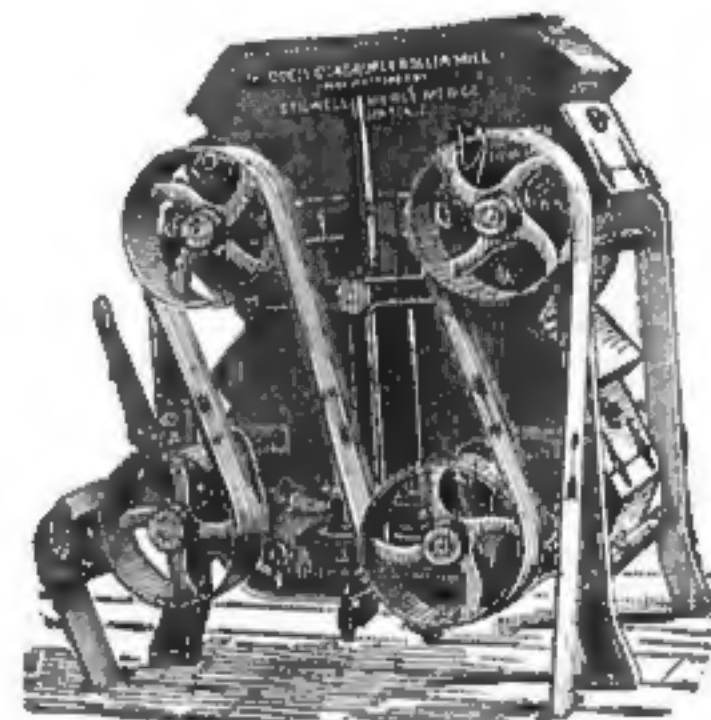
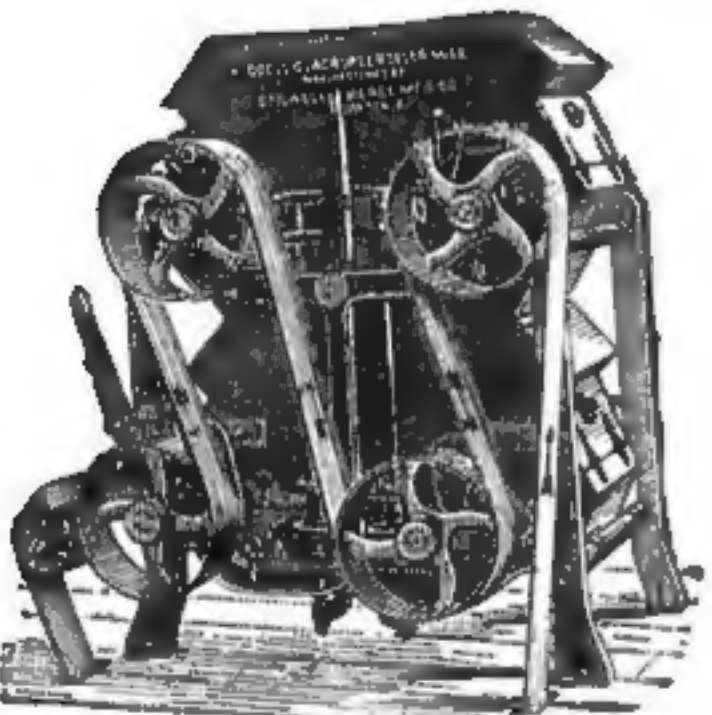
HOWES & EWELL,
SILVER CREEK, N. Y.

THE ODELL CELEBRATED ROLLER MILLS

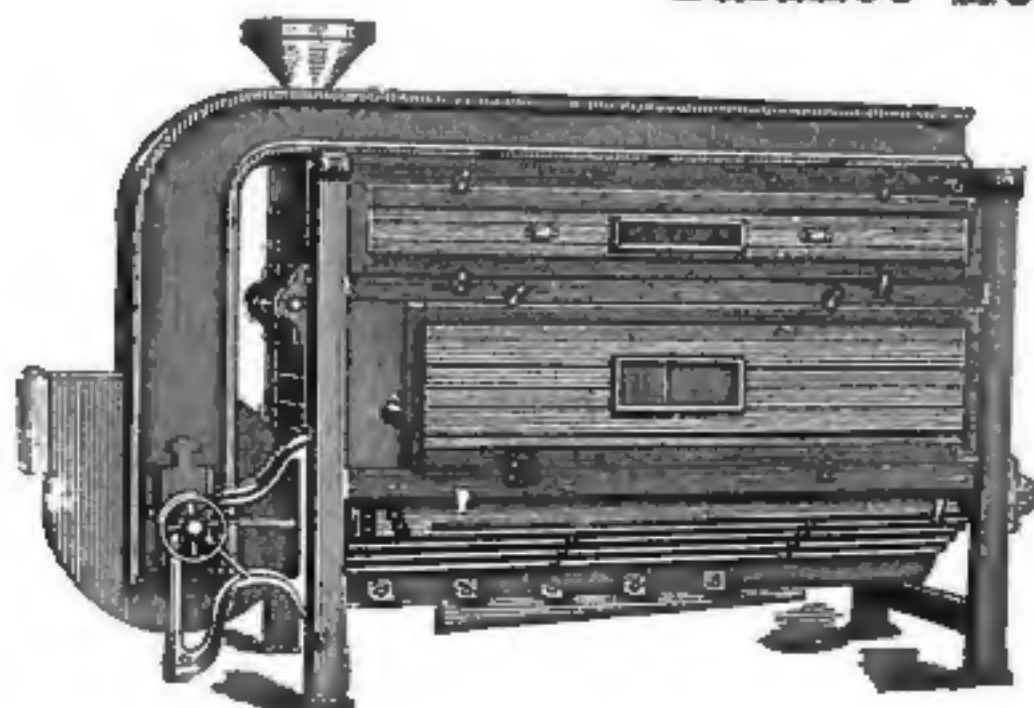
For beauty of design; ease and facility of adjustment; perfection of workmanship; simplicity of construction; character of product; homogeneity of roll surface; accuracy of corrugation; wide range of adaptability; freedom from annoy-

ing breakdowns; durability and small consumption of power, the palm of superiority must be awarded to Odell's Celebrated Roller Mills. Made in a wide variety of styles and sizes; in use with unvaryingly satisfactory results in the largest and

smallest mills in the country; endorsed by those who use them and those who see them in operation, it would appear the part of wisdom to investigate the features which have given them their popularity. Write to, or call upon, the

**STILWELL & BIERCE MANUFG. CO., DAYTON, OHIO.****WOLF & HAMAKER'S LATEST IMPROVED MIDLINGS PURIFIER AND DUST CATCHER**

The Only Machine with Two Sieves, for Fine and Coarse Middlings. The Only Machine with Balance Motion, Consequently no Jarring or Shaking.



ADAPTED to all styles of milling, high or low grinding, as fine or coarse middlings can be treated separately on one machine. Economy in space, as the machine is a double one. A perfect cloth-cleaning device. No brushing or wearing of cloth. Licensed Under All Conflicting Patents. We are the Agents for the E. F. Allis Roller Mills, and Mill Builders and Contractors. We are at all times prepared to furnish plans and estimates, and to contract for the erection of first-class mills of any desired capacity from 50 to 500 barrels. Parties contemplating Roller Mills or remodeling old mills will find it to their interest to write for Prices and Terms. Wolf & Hamaker's Latest Improved Bolting Chest. Also Mill Furnishings of Every Description.

OUR DUST CATCHER IS GIVING THE BEST OF SATISFACTION, AND OUR PRICES ARE SUCH THAT EVERY MILLER SHOULD HAVE THEM.

WOLF & HAMAKER, ALLENTOWN, PA.

ON VIEW AT PERMANENT EXHIBITION OF MILL MACHINERY, 36 BROADWAY, NEW YORK.



OUR MINNEAPOLIS LETTER.

[From our own correspondent.]

UNPRECEDENTED ACTIVITY IN THE MILLS—HOME AND FOREIGN DEMAND GOOD—WHEAT RECEIPTS AMPLE BUT NOT LARGE—MATTERS FOR THE INSPECTION COMMITTEE—THE ANNUAL PILLSBURY DIVISION OF PROFITS CREATES SOME DISSATISFACTION—AFFAIRS OF THE MAZEPPA MILL CO., AND THE MINNESOTA ELEVATOR CO—A MANUFACTURING ESTABLISHMENT TURNED OVER TO A RECEIVER—GOSSIP AND NOTES.

There never was a time when milling operations were pushed with greater vigor than is being done on the falls at present. It is doubtful if the flour production was ever as large. With a single exception every mill in the city is running, and the total amount of flour that is being rolled out daily almost passes comprehension. None of the mills are playing, but each one bends to its work and gets out every barrel of flour possible. Some of the mills—more especially those on new wheat exclusively—are improving on their capacity records, and this may be quite general as soon as old wheat is ground up and got out of the way. And, notwithstanding the heavy work being done by the mills, the proprietors are not satisfied, and urge their millers to strain a point and do a little better. The flour production of last week averaged 23,500 barrels daily, and this week has been close to 25,000 barrels. The latter figure only lacks about fifteen hundred to make it equal to the maximum capacity claimed for the mills. The only mill in the city that is idle is the Excelsior, of D. Morrison & Co., and this is being fixed up by millwrights for the supposed purpose of being put in operation. If this is done, the daily production is liable to be swelled to a figure beyond 26,000 barrels. The mills have an abundance of water power, and run with the smoothness of clock work. Heavy rains have lately been of almost daily occurrence, and fears of low water causing trouble this winter have been banished from the minds of about all. The work of putting in steam power, however, goes on without interruption. The proprietors of mills with 1,500 barrels capacity have been overheard to remark that had they had steam power last winter they could have made its original cost twice over.

The demand for flour, especially old, is good, and the market appears to improve in this respect, though prices are unchanged. It is not an unusual thing for a mill to have orders ahead for several thousand barrels of flour, with others coming in daily. The export inquiry is better, and quite a business is anticipated from that source. With cheap wheat, the miller finds himself in a more favorable position to compete with foreign products, and is evidently making more or less money, but there is no telling how soon this profit may be cut off. Freight rates, from Chicago east, are thought to have been cut, thus giving the mills a low rate of transportation.

The receipts of wheat in Minneapolis are comparatively light, and the feeling seems to be gaining ground that the farmers intend to hold their grain, in anticipation of higher prices, until actually forced to sell. The amount being received here more than meets the needs of the mills, allowing the stock in store to increase somewhat, though quite small as compared with the corresponding period last year. Duluth is receiving much more than we are, but this is attributable to a less rigid inspection at that place. The wheat in store in Minneapolis elevators is 800,000 bushels, and at St. Paul 75,000 bus. The wheat coming in is all new, and where ground alone, as is being done by four or five mills, is showing itself to have very fine milling qualities. It is claimed to contain more gluten than the last crop did, and therefore is stronger, and while as yet not fully cured, to already make flour superior to that from old wheat. Millers are beginning to admit that the old wheat crop which is now nearly done with, was a bad one. Not a few express their belief that the whole crop was more or less affected by the early frost, leaving the keeping qualities of flour very uncertain.

The appended table exhibits the receipts and shipments of Minneapolis for two weeks:

FLOUR.		
Week ending	Receipts.	Shipments
	Bbls.	Bbls.
Sept. 24,	378	124,000
Sept. 30,	375	130,081
Total	753	254,081
WHEAT.		
Week ending	Receipts.	Shipments
	Bus.	Bus.
Sept. 24,	900,000	38,000
Sept. 30,	944,000	67,000
Total	1,844,000	105,000

The local wheat market closed for the week with larger receipts, and the offerings were increased with a moderate demand. Prices were steady at the opening, but under pressure to sell declined fractionally. Buyers are not willing to

increase holdings at the last day of the week and preferred to wait till Monday in hopes that the large receipts of two days would weaken the market still further. Samples sold fairly well, though concessions of nearly 1c per bushel were necessary to effect sales in some cases. Futures are rather weak, a sale of 5,000 bushels November being at 80½c. Closing quotations were: No. 1 had 79½c asked, spot; 81¼c November; 83¼c December; spot sold at 80c, f. o. b. and 70c in store. No. 2 hard at 74½c. No. 1 sold: one car, 75c; 5 cars, 73c; 2 cars, 72c; 2 cars, 71c; 1 car, 70c, all f. o. b.

The inspection committee of the Chamber of Commerce held a meeting Thursday, to listen to statements from handlers of grain, relative to trouble over grades. Mr. Pratt said he had had trouble and some loss from a lack of uniformity in the grading, apparently the same quality of wheat being graded as No. 1 hard on one day and No. 2 hard the next. The same complaint was made by others. Mr. Robbins, who spoke from the standpoint of the elevator men, said that if all wheat handled had to be sold at the grade placed upon it by the inspector, no line of elevators would pay. There was considerable discussion of the quality of wheat sent down from the northern part of the state. Mr. Yerxa said there was something peculiar about the new crop. It was much better than it looked. He had talked with a number of head millers who agreed that No. 1 northern ground as well this year as No. 1 hard has in some previous years. The question of whether or not the so-called "bleached wheat" of the Jim River Valley should be accepted was also discussed. Two or three present expressed the opinion that the lighter color, noticeable in this variety, came not from the rains but from the peculiar method of ripening in this kind of wheat, the heads being less compact and allowing the sun to shine upon the kernel more directly. At the close of the meeting, the inspection committee went into executive session and took action relative to the course that should hereafter be pursued in inspecting, the import of which the members refuse to make public.

C. A. Pillsbury & Co., again this year gave a percentage of their profits to a certain portion of their employees. This sum is said to have been three per cent of the profits, and amounted to a number of thousands of dollars. There were about seventy of the firm's employees who received the money, but these were not all confined to the two Pillsbury mills, the office force being included in the number. In the A mill, the division was confined to heads of departments, and men that had been in the employ of the firm for five years, but at the Anchor, it is understood to have been more general. On account of its not having been made as general at the A as at the Anchor, has aroused quite a feeling among the men in the former, and the proprietors are charged with toadying to those holding sinecure positions. The grinders, machine tenders, and others having a direct connection with the conduct of the mill, were among those left out, when they feel that they have as much to do with the economical operation of the mill as any one in it, even if they have not been

there five years. It seems to us short sighted policy on the part of C. A. Pillsbury & Co., to include a few and not all of their more skilled and responsible workmen in this kind of an arrangement, and that they will be greater losers by it than if nothing of the sort had been undertaken. The object—a good one—is to interest the employees to work with greater diligence for the interests of the firm. Now let a man who has important parts of the mill to look after, witness the gift to a superior of a proportion of the firm's profits, while he is passed over without notice, and he at once assumes an attitude toward the owners directly opposite to what this system of allowing percentages is desired to accomplish. It is not infrequently that the whole-souled liberality of one head miller, as against the grasping avarice of another is held up and discussed. The sums distributed among their men by Pillsbury & Co. ranged from \$225 up to \$1,400 each.

The respective creditors of the Mazeppa Mill Co., and the Minnesota Elevator Co., which recently failed, held meetings at Red Wing last week. A Chicago creditor, who went through the books of the mill company, gives its assets at \$74,952, and the liabilities at \$149,801. The mill proper is now listed at \$51,000, this being regarded as what it would bring if sold. It is stated that the company will not be permitted to continue business, the assignee being authorized to dispose of its property as fast as possible. The creditors of the Elevator Company appointed a committee to see what arrangement could be made towards continuing the business, and this committee, after a short investigation, asked for further time, when the creditors adjourned for ten days, at the expiration of which time it will be known for a certainty whether or not it will be best to reorganize and go along with the business. The chances are more than likely that the latter course will be taken.

Crocker, Pell & Boardman, under the corporate name of the Minneapolis Engine & Machine Works, have become financially embarrassed, and a receiver has been appointed. The concern's troubles began about a month ago with the failure of Kerrick & Co., and things were further complicated by a strike among the workmen in the shops. Later, a suit by a St. Paul bank upset the company's plans, and a week ago the works were closed. The amount of the liabilities and assets has not been ascertained. This firm, under the style of Crocker & Pell, began business about three years ago. They have quite large shops in the south part of town, and carried on a saw and flour mill furnishing business. Mr. Boardman, a local real estate dealer, became interested in the institution several years ago.

Two engines for the Washburn A and C mills have been ordered of Wm. Wright, Newburg, N. Y. The one for the A mill is to be of 1,100 horse power, and a twin engine, and the one for the C of 900 horse power and a tandem engine. Each is to be used only for driving part of the mill, and both are to be delivered inside of ninety days. The boiler house is well along in construction, only needing the roof to complete it. It will con-

tain eight boilers, furnished by the Butman Furnace Co., of Cleveland.

Arrangements are said to have been made for starting up the two mills of J. H. Townshend & Co., at Stillwater, Minnesota, which were forced to shut down at the time that the Northwestern Car Mfg. Co. became embarrassed. The Florence mill will be put in operation at once, and the St. Croix in about a week. The combined capacity of the mills is 550 bbls. daily.

The proprietors of the Occidental feed mill will put in machinery to manufacture oatmeal.

Everything remains serene between our coopers and millers, the latter paying 42c for ten-hoop all-oak barrels. Mixed elm and oak barrels, which are sold for one cent less, are being pretty generally used by the mills, whereas two months ago nearly all the barrels were oak.

J. A. Christian, who at times in the past month has been in a precarious condition, is now gradually recovering. He was first taken ill with bilious dysentery which changed to inflammation of the bowels, and he has had a severe time of it.

A meeting of the inspection committee of the Chamber of Commerce was held on Friday, to which all elevator men and commissioners were invited, and the inspection question was considered. It seems that the inspection in Minneapolis is more rigid this year, and the elevator men and country dealers are making a great stir about it. It was to consider this matter that the meeting was held yesterday.

Fred C. Pillsbury has arrived home from Europe.

The head millers meet Tuesday evening, and monument matters will be the principal subject that will be considered.

T. L. Baker has retired from his connection with the City mill at Anoka, John Dunn, his partner, continuing the business. The partnership had only just been formed.

At the annual election of the Chamber of Commerce Wednesday, Geo. A. Pillsbury was re-elected president; C. C. Sturtevant, secretary, and Wm. Powell, treasurer. Quite a contest was made over the secretaryship, there being several candidates in the field.

The Anchor mill, which never before made over 850 barrels, turned out an average of 1,073 barrels of flour last week, on one day making 1,156 barrels.

Although reports from apparently reliable sources have been in circulation lately to the effect that the Washburn Mill Co. was preparing to erect its Lincoln mill at Anoka, members of the firm deny that the matter has yet been considered, and say that the re-building of the mill the coming year at least, is very improbable.

The Columbia mill turned out a 3,750 barrel government contract last week.

R. W. Dunham, son of the editor of London Miller, is in the city looking for a situation in one of our large mills to learn the miller's trade. To say that such downy-cheeked youths are obnoxious to the average operative miller here is only putting it lightly.

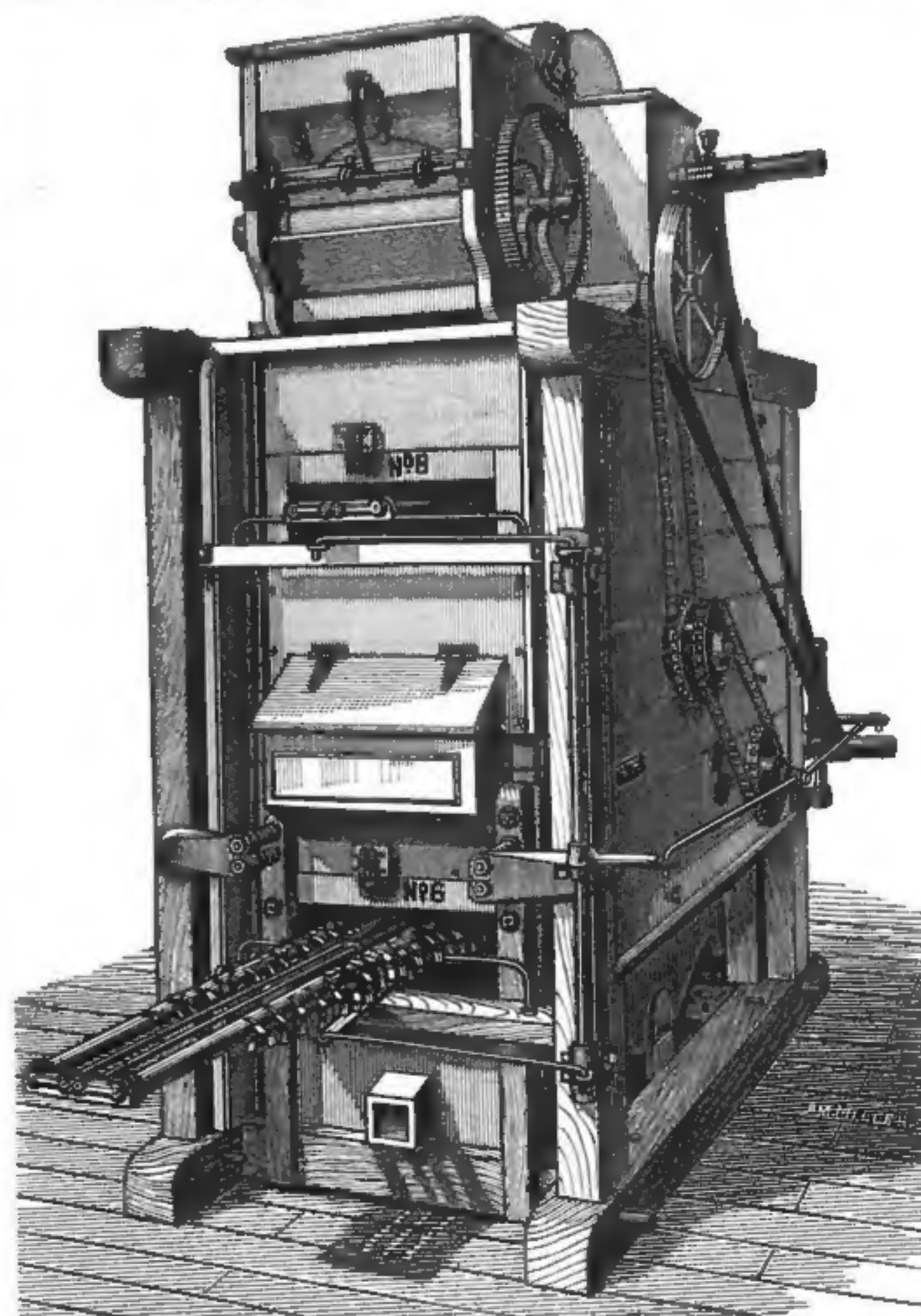
Minneapolis, Oct. 4, 1884.

CALEB.

THE DOUBLE CURRENT PURIFIER

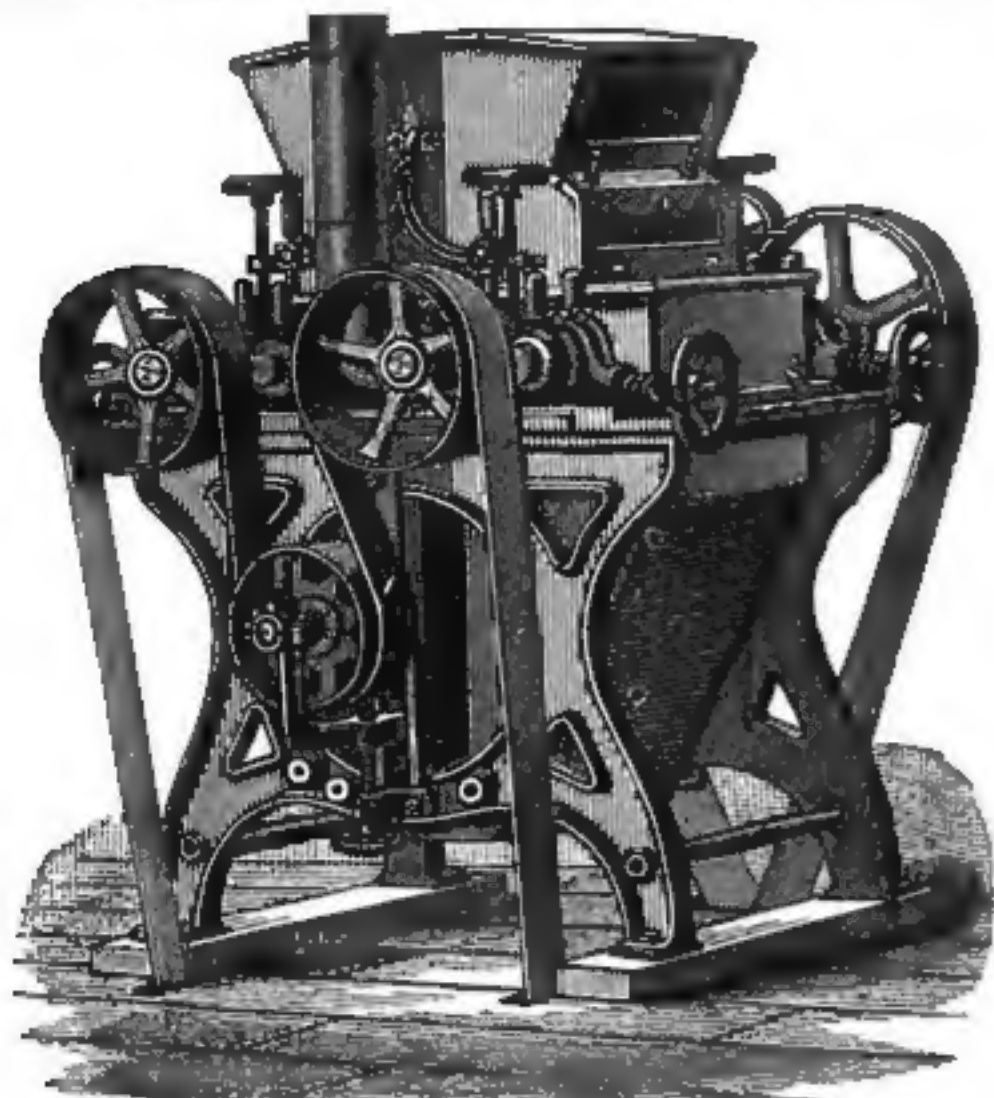
Has the Automatic Separating Feeder. It takes out the heavy specks between each number of cloth. It settles the heavy dust and lifts the light fuzz into the dust room. It has "Collins" Automatic Cloth Cleaner. Licensed under all conflicting patents. Descriptive circulars and prices on application. Mention this paper.

J. T. Walter, Sole Manufacturer, Easton, Pa.



Rickerson Patent Improved Roller Mill

ORIGINAL 6-INCH ROLLER MILL.



*Requires Less Power to Drive,
Has Greater Capacity,
Better Granulation,
More Middlings*

THAN ANY OTHER ROLLER MILL.

Patent Exhaust Attachment for
taking away Generated Heat.

Positive movement of the rolls. We will furnish details upon application. Send for our Circulars before purchasing any Roller Mill.

O. E. BROWN MFG. CO.,
GRAND RAPIDS, MICHIGAN.

Buckwheat Refiners & Portable Mills



**BREWSTER'S CELEBRATED
Buckwheat Refiner**
Is the only machine
whereby the greatest
yields of

**PURE, WHITE
SHARP FLOUR**
can be obtained.
The only reliable, practical
and durable machine
IN THE WORLD.

THE POSITIVE ADJUSTMENT
**AND AUTOMATIC
MIDDINGS MILL**

Is Strictly Self-Protecting
*The Best Adjustment in
the World.*
And the only

Perfect Granulator
Grinds Cool, Self-Oiling, Great
Saving of Power.
**Simplicity and Durability
Combined.**



Satisfaction Guaranteed on all our Goods. Send for Descriptive Circular, giving Prices, Sizes, Terms, etc.

BREWSTER BROS. & CO. Unadilla, N. Y.



CALIFORNIA!

DEAL'S CALIFORNIA MAGNETIC

**BRUSH SMUTTER
AND**

SEPARATOR COMBINED

Warranted The Very Best In America.

The purchaser being the judge after 60 or 90 days' trial. We manufacture a complete line of Grain Cleaning Machinery, and guarantee every machine to give entire satisfaction or no pay. Send for circulars, it will pay you.

M. DEAL & CO.,

Sole Owners and Manufacturers,
BUCYRUS, OHIO, U. S. A.

TRIMMER'S Improved Adjustable GRAIN RUBBING, POLISHING —AND— SEPARATING MACHINE COMBINED.

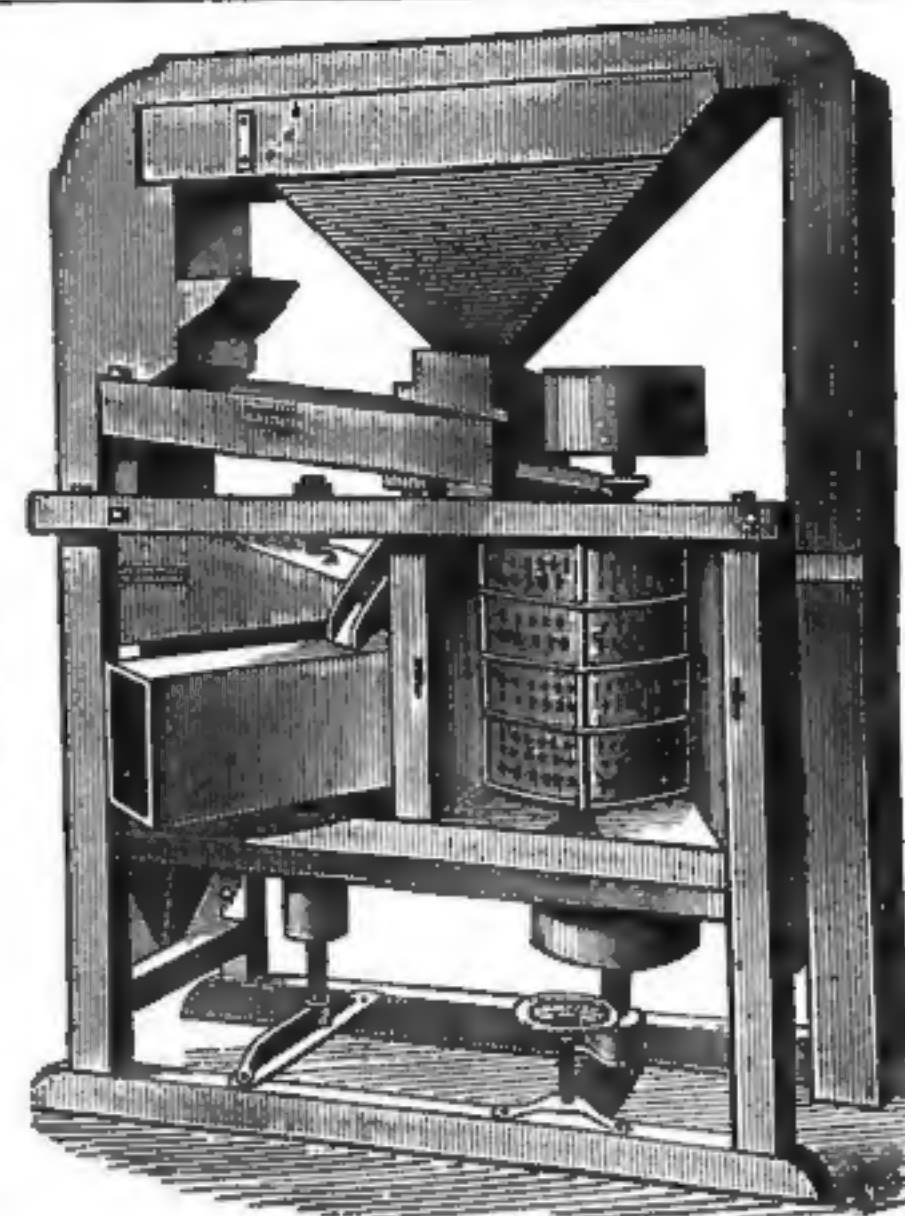
It will clean, rub and separate wheat, and take out the rat balls, black seed seeds, joints of straws, cockle and other impurities. It will also rub off more fuzzy ends and dust from the creases of the berries, by rubbing the wheat together as it passes up between the rubbers, so each berry must get rubbed, scoured, and polished alike. It will do all of this work better and last longer than any other machine of the kind. All this we guarantee. It will also clean barley and rye.

SEND FOR DESCRIPTION & PRICE LIST.

Kreider, Campbell & Co.

MILLWRIGHTS & MACHINISTS,

1030 Germantown Avenue, Philadelphia, Penn.



GEHRICH'S PATENT GLASS TUBE JOINTS

AN IMPORTANT INVENTION FOR MILLERS.



This invention consists of a Glass Tube Joint, which can be made to correspond in size to and be inserted in any tin spout used to convey grain, meal, etc., in the operation of Grinding Flour and other substances. A section of the spout is thereby *Rendered Transparent*, enabling the miller, or any one passing by, to see at a glance whether the contents of the spouts are properly running. By the use of this appliance the necessity of frequently opening spouts is avoided, and the consequent saving of time and flour is very important in an economical point of view. These Glass Tube Joints have given the most complete satisfaction, and are esteemed as an indispensable requisite wherever they have been applied. Full information furnished on application to the inventor.

H. GEHRICH, 54 Rutgers St., NEW YORK CITY.

DeLOACH WATER WHEELS.

Simplest and Cheapest Manufactured, and have received the unqualified endorsement of all who have used them. Every small Mill can afford one. Send for large illustrated Catalogue of Wheels and general Mill supplies. "The Star Grind" Mill stones from our quarry are unsurpassed and sell remarkably low. A. A. DeLoach & Bro., Atlanta, Ga. U. S. A.



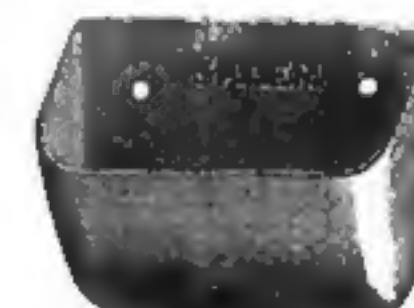
*** THE INK ***
WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
QUEEN CITY PRINTING INK CO.
CINCINNATI, O.

THE "SALEM" ELEVATOR BUCKET.

SHOVEL EDGE

Seamless Rounded Corners

CURVED HEEL.



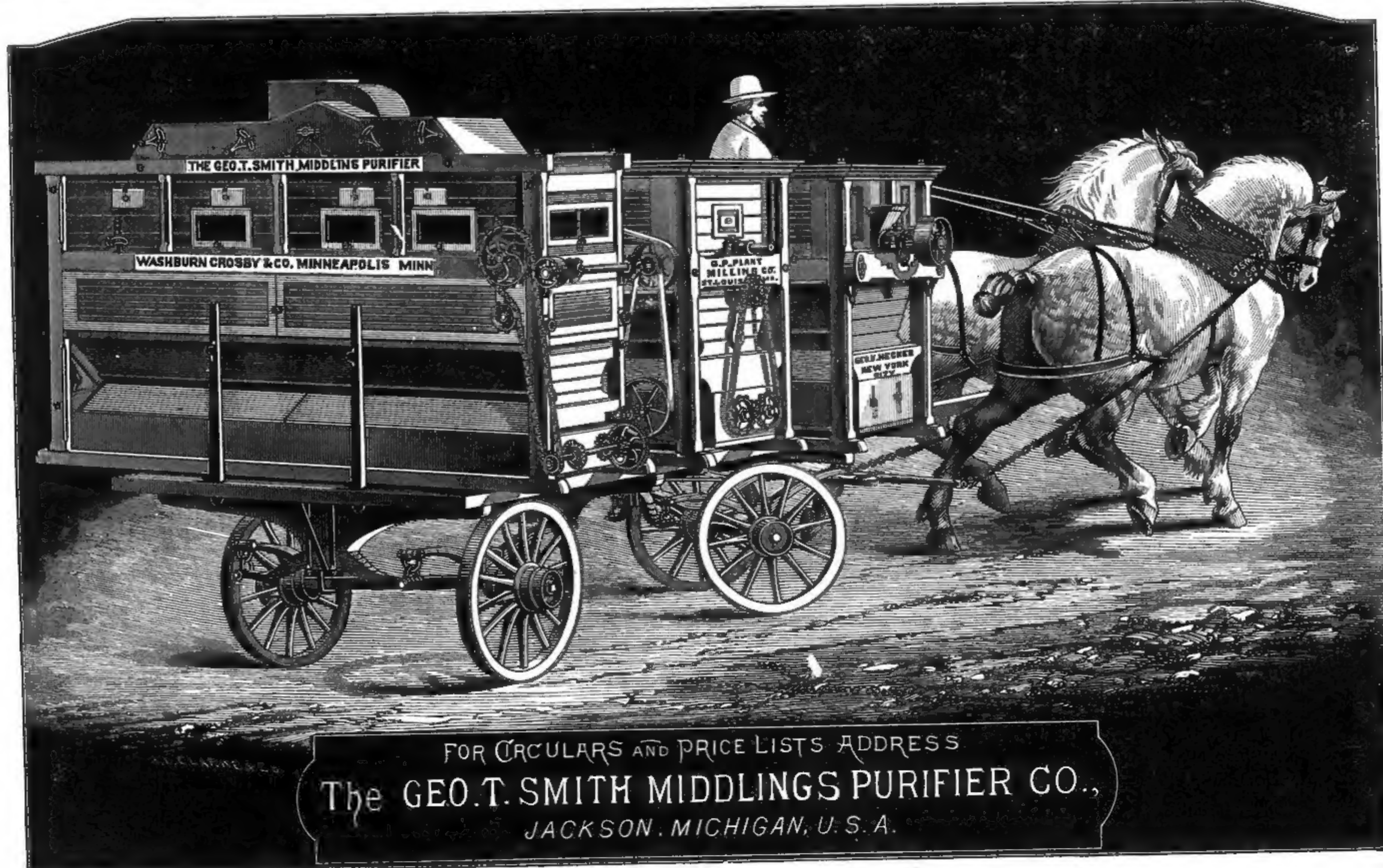
RUNS EASY

STRONG & DURABLE

EMPTIES CLEAN.

W. J. CLARK & CO., MANUFACTURERS, SALEM, OHIO.

New York Office and Salesroom, No. 9 Cliff Street.



FOR CIRCULARS AND PRICE LISTS ADDRESS
The GEO. T. SMITH MIDDINGS PURIFIER CO.,
JACKSON, MICHIGAN, U. S. A.

SCIENTIFIC AND MECHANICAL

MINERAL LUBRICANTS.

THE supply of Russian petroleum has caused increased attention to be paid to the question of mineral lubricants. An Austrian technical journal has lately pointed out, that the partial adoption of this system has been caused by the impression that vegetable and animal oils are more advantageous than mineral oils for lubricating purposes. This circumstance is attributed in some measure to ignorance, and to the want of attention paid to the subject in the higher technical. The efficacy of a lubricating substance depends less upon the quality of greasy matter it contains than upon its capacity for lubricating. It is stated that pure distilled water is an excellent lubricant, provided it is used at the proper time and in due quantity. It should be constantly renewed, so as to retain a low temperature. On steamers, when a shaft gets heated, every engineer knows the value of sea water as a lubricant, and those parts of the machinery which work under water require no other lubricating agent. Water produces the result indicated, not by the presence of any grease, but by its low temperature, its exceptional smoothness, and its freedom from foreign substances. It fills the pores of the surfaces to which it is applied (particularly if a certain pressure be used), and prevents any heating. Mineral oil has been found preferable to all other lubricating agents (except distilled water) as to efficacy and cheapness. It does not readily combine with the oxygen in the air, and thus no acid or resinous formations take place, and the machinery remains smooth and clean. When the machinery is out of use during extreme cold, the oil does not stagnate or saponify. The prejudices of the older engineers have retarded to some extent the introduction of mineral oil, and the complaints as to its smell on steamers has led, in some cases, to its gradual introduction mixed with vegetable oil. It is expected that Austria will be an important consumer of Russian mineral oil for the purpose indicated when the Corinth canal has been finished, the saving between Batoum and Trieste being estimated at several hundred nautical miles.—*Ex.*

HEAT AND POWER.

In his opening address, Pres Rayleigh, of the British Association said: "In thermodynamics the first law which asserts that heat and mechanical work can be transformed one into the other, at a fixed rate, is well understood. The second law is now receiving the attention it merits. It is that the real value of heat, as a source of mechanical power, depends upon the temperature of the body in which it resides—the hotter the body in relation to its surroundings, the more available is the heat. In order to see the relations which obtain between the first and second law of thermo-dynamics, it is only necessary for us to glance at the theory of the steam engine. Not many years ago calculations were plentiful demonstrating the inefficiency of the steam engine, on the basis of a comparison of the work actually got out of the engine with the mechanical equivalent of heat supplied to the boiler. Such calculations took into account only the first law of thermo-dynamics, which deals with the equivalents of heat and work, and have very little bearing upon the practical question of efficiency, which requires us to have regard also to the second law. According to that law, the fraction of the total energy which can be converted into work depends upon the relative temperatures of the boiler and condenser and it is therefore

manifest that, as the temperature of the boiler cannot be raised indefinitely, it is impossible to utilize all the energy, which, according to the first law, is resident in the coal. On a sounder view of the matter, the efficiency of the steam engine is found to be so high that there is no great margin remaining for improvement. The higher initial temperature possible in the gas engine opens out much wider possibilities, and many good judges look forward to a time when the steam engine will have to give way to its younger rival."

DAMP-PROOF PAINT.

An English firm have lately exhibited samples of a paint and models of damp walls treated with it, the preparation and uses of which ought to command the undivided attention of practical men and painters. It is called the "Magnetic oxide of iron paint," and it seems to have been an invention reserved for modern chemists to perfect. It is known to all scientific men that the magnetic oxide of iron (Fe_3O_4) cannot be attacked by rust. To make this oxide the basis of the paint has been attempted by several with more or less success. The inventors, after several trials, have produced a paint which seems to meet the requirements of price and quality. The ordinary paints of this description are made from a colored earth, which has little or no virtue; but the magnetic properties of the real magnetic oxide imparting a strong affinity for iron, causes its particles to adhere to iron and to form a complete protection from the atmosphere. It is non-corrosive and proof against acids or sulphurous gas. While possessing preservative properties, it retains a good body and covers well, one of the leading requirements of painters, besides being cheap and non-poisonous. As impenetrable to damp, the magnetic oxide paint offers a valuable material to all who have damp walls. A specimen brick wall and two plaster models were shown, all exposed to the percolation of water. One had a paper without the oxide preparation beneath, and another one with it, giving ocular evidence of its value. A third specimen was painted with the oxide, the surface of which was unaffected by the damp. We all know the effect of damp on ordinary paint—how soon it flakes off. This paint has the merit also of not blistering by heat, and it can be used for all kinds of in and out door work of iron, wood, stone or brick.

* * The phenomenon of the combustion of oily refuse in factories, spontaneously, has been the subject of thorough investigation by one of the technical societies of France, including a series of experiments upon fragments of cotton, linen, jute, and woolen waste, saturated with oils of different natures. In this case, the materials were placed in a tin box, having a double bottom, in which steam entered, so that the part which received the refuse could be maintained at a temperature of 180° Fahr.; and a thermometer was inserted in the oily substance, so that the variation of temperature occurring therein could be noted. The results obtained show, first, that any vegetable or animal oil inevitably takes fire after a few hours, under the above conditions; on employing cotton waste, the mass burns quickly and with flame, in contact with the air, while wool refuse is slowly transformed into a dark carbonaceous mass. In the second place, the addition of mineral oil, known as lubricating mineral oil, serves to retard the spontaneous combustion of vegetable or animal oil, if mixed in small quantities, but if a large amount be added, inflammation is entirely prevented.

* * A very successful exhibition of a steam corn-husking machine, we are told, was made in New York city a few days ago.

The unhusked corn is fed to the rollers by hand, passing through two troughs covered with zinc. When the corn reaches the rollers it is immediately stripped, flat brass springs keeping it in position until the stripping is accomplished. The rollers are so constructed, with springs on each side, as to give ample room for husks or bunches of husks to pass through easily, and, also, on each side of the rollers are combs to clean their teeth and so prevent clogging. Wooden carriers are attached to the machine, which carry the corn to the crib or wagon and the husks in another direction. The inventor claims for the machine that it will strip 125 bushels of corn an hour, while the average quantity stripped by hand is only thirty bushels.

* * The depression of the freezing point in thermometers, which is known to occur frequently, and which may amount to as much as one-half degree to one degree, is affirmed by R. Weber, in a communication to the Royal Academy of Berlin, to be caused by the character of the glass used in the construction of thermometers. The greatest variation was found to be caused by the readily fusible alkali-lime glasses, which, by reason of their being more readily manipulated, are the most commonly used; while the best results were obtained from the use of pure potash glasses, rich in silicic acid and lime.

* * A correspondent of the *American Machinist* says that the white clay or kaolin found in many parts of the South is used for boiler lagging with excellent results. He says: "I have seen locomotives covered with it placed in the house at 10 P. M., with 130 pounds of steam, and without fire, which showed 60 pounds of steam the next day at noon." The clay is mixed half and half with plaster of Paris with jute to hold it in place.

* * Mineral wool is used for packing to deaden the sound between floors in buildings, and being incombustible it is now pretty generally used between the floors and ceilings in new houses. Mineral wool is obtained from the slag from blast furnaces, and is produced by throwing a jet of steam against the stream of slag as it flows from the furnace.

* * It is said that within five years to come the vast amount of tin annually imported into the United States will be replaced by a larger amount of it mined and worked into tin from ore found in the Black Hills of Dakota.

RIVAL STEAM PUMPS
THE CHEAPEST AND THE BEST FOR HOT & COLD WATER.
\$35.00 UPWARDS.
15 SIZES
JOHN H. MCGOWAN & CO. CINCINNATI



KEISER TURBINE
Only Best Wheel Built.
Examine its construction and be convinced. The only wheel that really distributes and applies the water correctly and scientifically at all stages of gate, and at the same time closes water-tight and has an easy working, balanced, gate. Tell us about your water power.
KEISER MACHINE CO.
ALLENTOWN, PA.



MERCER'S
RELIABLE
Turbine Water Wheel.
This wheel is acknowledged one of the best on the market. Has valuable improvements in the construction which is commanding the attention of buyers. Send for catalogue and price list. T. B. MERCER,
WEST CHESTER, PA.
CHESTER CO., PA.



BURNHAM'S
IMPROVED
Standard Turbine
IS THE
Best constructed and finished, gives better Percentage, more Power, and is sold for less money, per horse power, than any other Turbine in the world.
New Pamphlet sent free by
Burnham Bros., York, Pa.



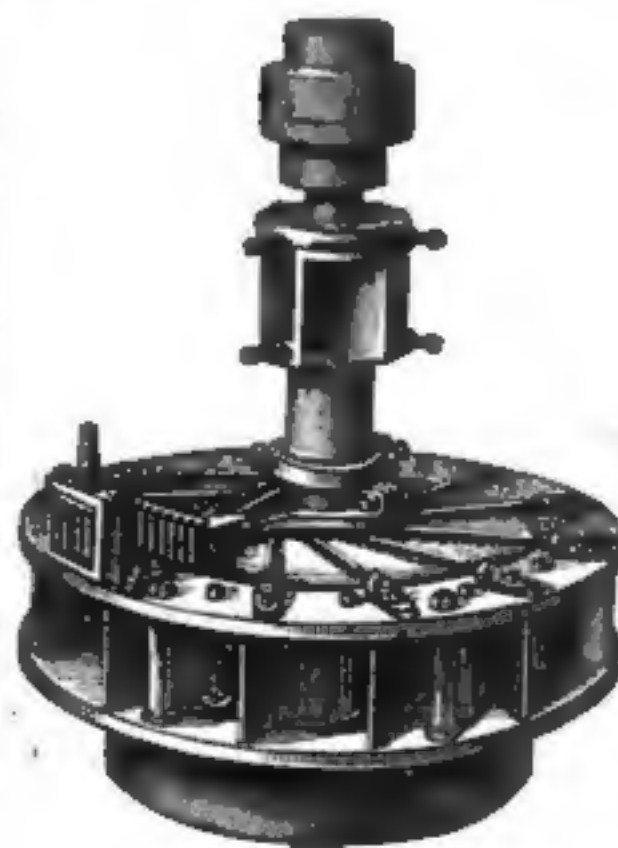
LEFFEL'S WATER WHEEL

MADE BY JAMES LEFFEL & CO.

The "OLD RELIABLE"

with improvements, making it the

MOST PERFECT TURBINE
NOW IN USE.



Comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads used in this Country. Our new Illustrated Book sent free to those owning water power.

Those improving water power should not fail to write us for New Prices before buying elsewhere. New Shops and New Machinery are provided for making this wheel. Address

JAMES LEFFEL & CO., SPRINGFIELD, OHIO, AND 110 LIBERTY STREET, N. Y. CITY.

POOLE & HUNT'S LEFFEL TURBINE WATER WHEELS

Made of Best Materials, and in the Best Style of Workmanship.

MACHINE-MOLDED MILL GEARING

From 1 to 30 feet diameter, of any desired face or pitch, moulded by our own Special Machinery.

SHAFTING, PULLEYS AND HANGERS

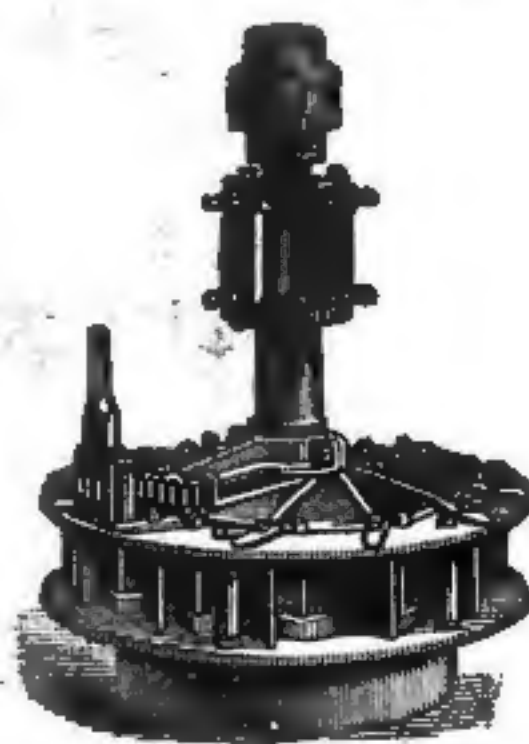
Of the Latest and Most Improved Designs.

Engines, Boilers,

Mixers and General Outfit for Fertilizer Works.

Special Attention given to Heavy Gearing. Shipping Facilities the Best in All Directions.

POOLE & HUNT, BALTIMORE, MD.





THE VICTOR TURBINE

Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as Shown in the Following Tests at Holyoke Testing Flume:

Size Wheel.	Head in Ft.	Horse Power.	Per Cent Useful Effect
15-inch.	18.06	30.17	.8932
17½ in.	17.96	36.35	.8930
20-inch.	18.21	49.00	.8532
25-inch.	17.90	68.62	.8584
30-inch.	11.65	52.54	.8676

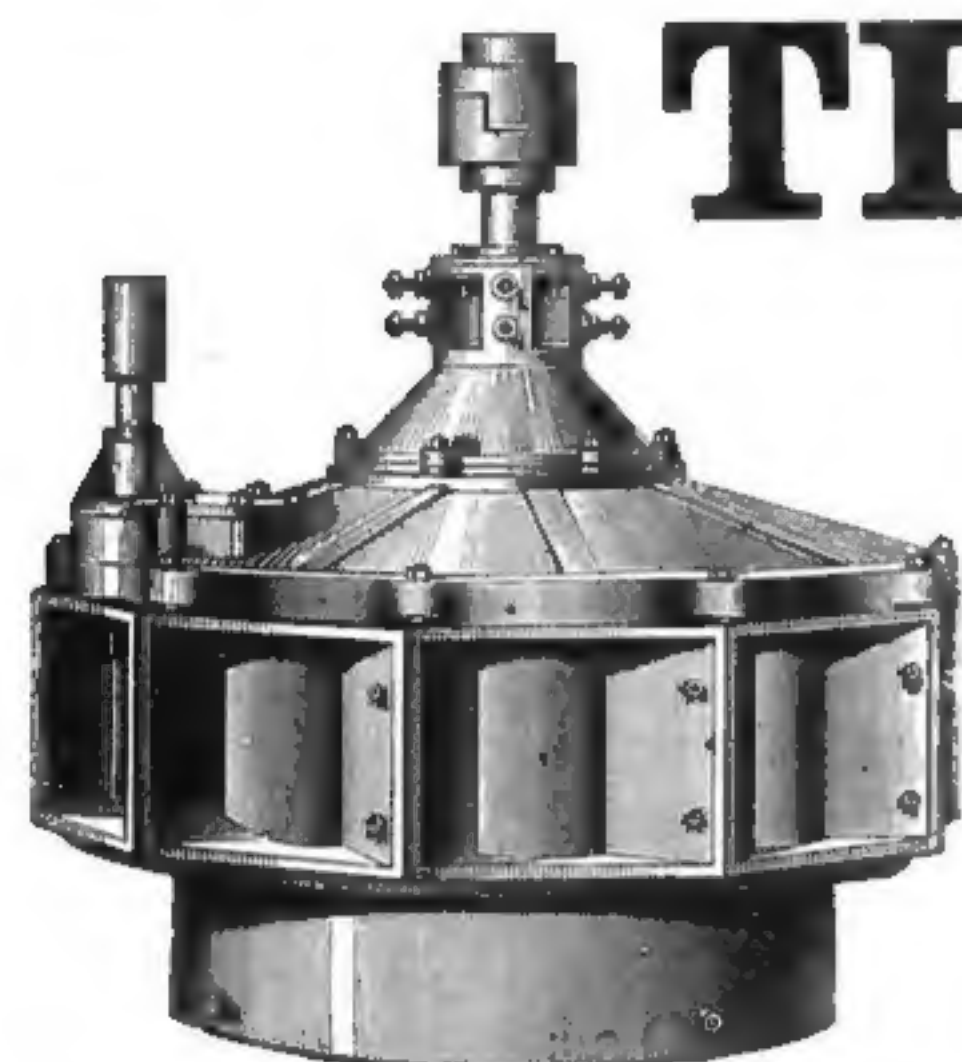
WITH PROPORTIONATELY HIGH EFFICIENCY AT PART-GATE.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably commend it to the attention of ALL discriminating purchasers. These Wheels are of very Superior Workmanship and Finish, and of the Best Material. We also continue to manufacture and sell at very low prices the

ECLIPSE DOUBLE TURBINE,

So long and favorably known. State your requirements, and send for Catalogue to the

STILWELL & BIERCE MANUFACTURING CO.,
DAYTON OHIO U. S. A.



THE EUREKA TURBINE

Celebrated as the Best Part-Gate Wheel Ever Built.

Absolutely Unequalled in Efficiency, as Shown by The Accompanying Table.

WE PUBLISH OUR PART-GATE FIGURES.

OTHERS SIGNIFICANTLY OMIT THEM.

No Other Turbine Ever Approached the Above Percentages at Part-Gate. For Catalogue and Information Address,

W. H. BARBER & CO., ENGINEERS AND MACHINISTS, ALLENTOWN, PA., U. S. A.

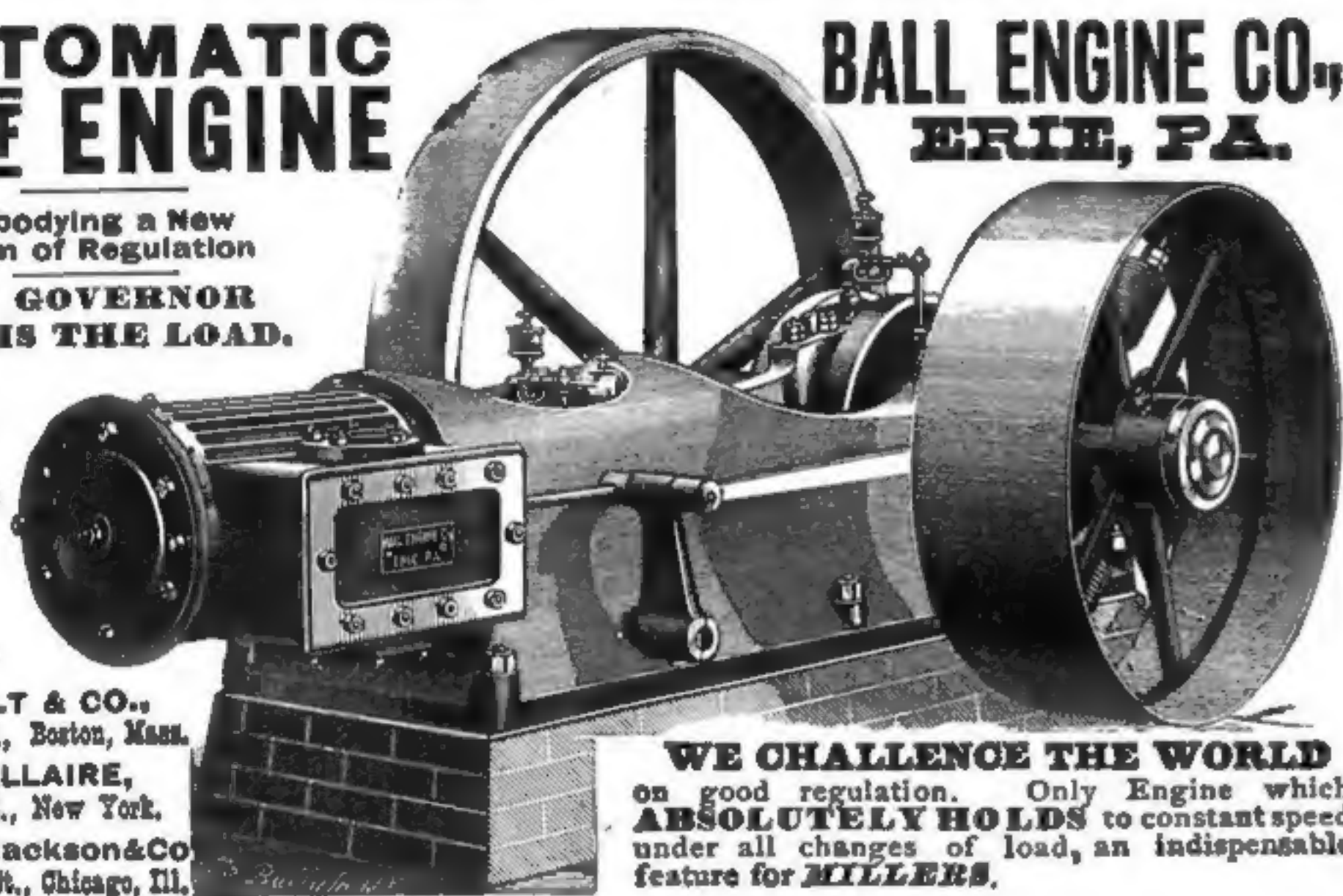
AUTOMATIC CUT-OFF ENGINE

Embodying a New System of Regulation
THE GOVERNOR WEIGHS THE LOAD.

Send for circular D

General Agents.

S. L. HOLT & CO.,
67 Sudbury St., Boston, Mass.
W. M. ALLAIRE,
61 Liberty St., New York.
Kingsland, Jackson & Co.
20 So. Canal St., Chicago, Ill.



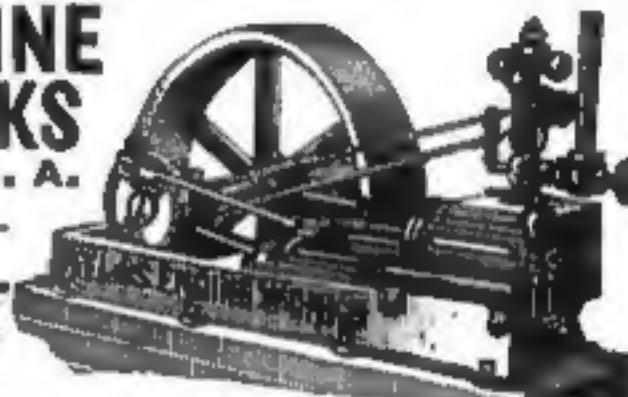
WE CHALLENGE THE WORLD on good regulation. Only Engine which ABSOLUTELY HOLDS to constant speed under all changes of load, an indispensable feature for MILLERS.

BALL ENGINE CO.,
ERIE, PA.

Send for Catalogue and Prices.



ATLAS ENGINE WORKS
INDIANAPOLIS, IND., U. S. A.
MANUFACTURERS OF
STEAM ENGINES & BOILERS.
Carry Engines and Boilers in Stock for immediate delivery.

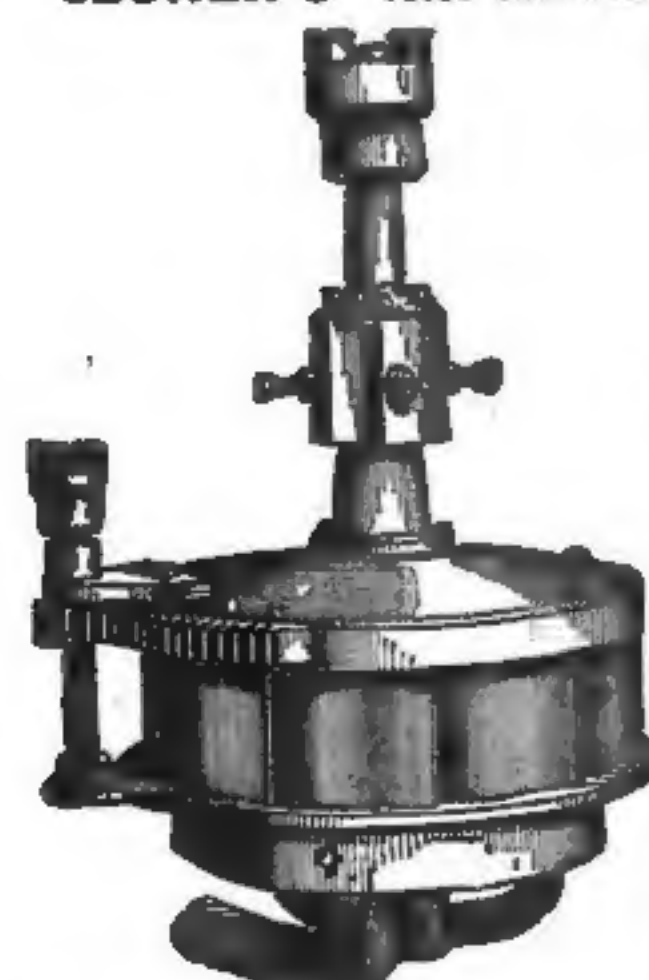


4 to 400 HORSE POWER

PORTABLE FORGES

Empire Portable Forge Co.
Cohoes, N. Y.
Send for Catalogue.

LESNER'S IMPROVED TURBINE.



Simple,
Durable,
Strong.
Gate Works
EASILY
—AND—
RAPIDLY.
PERCENT
Satisfaction
—IS—
GUARANTEED.

W. B. WEMPLE'S SONS, FULTONVILLE, N. Y.

Improved Success Percentage.

Full Gate.....	86.29
¾ Gate.....	86.07
½ Gate.....	81.90

This Wheel is Durable and Cheap.

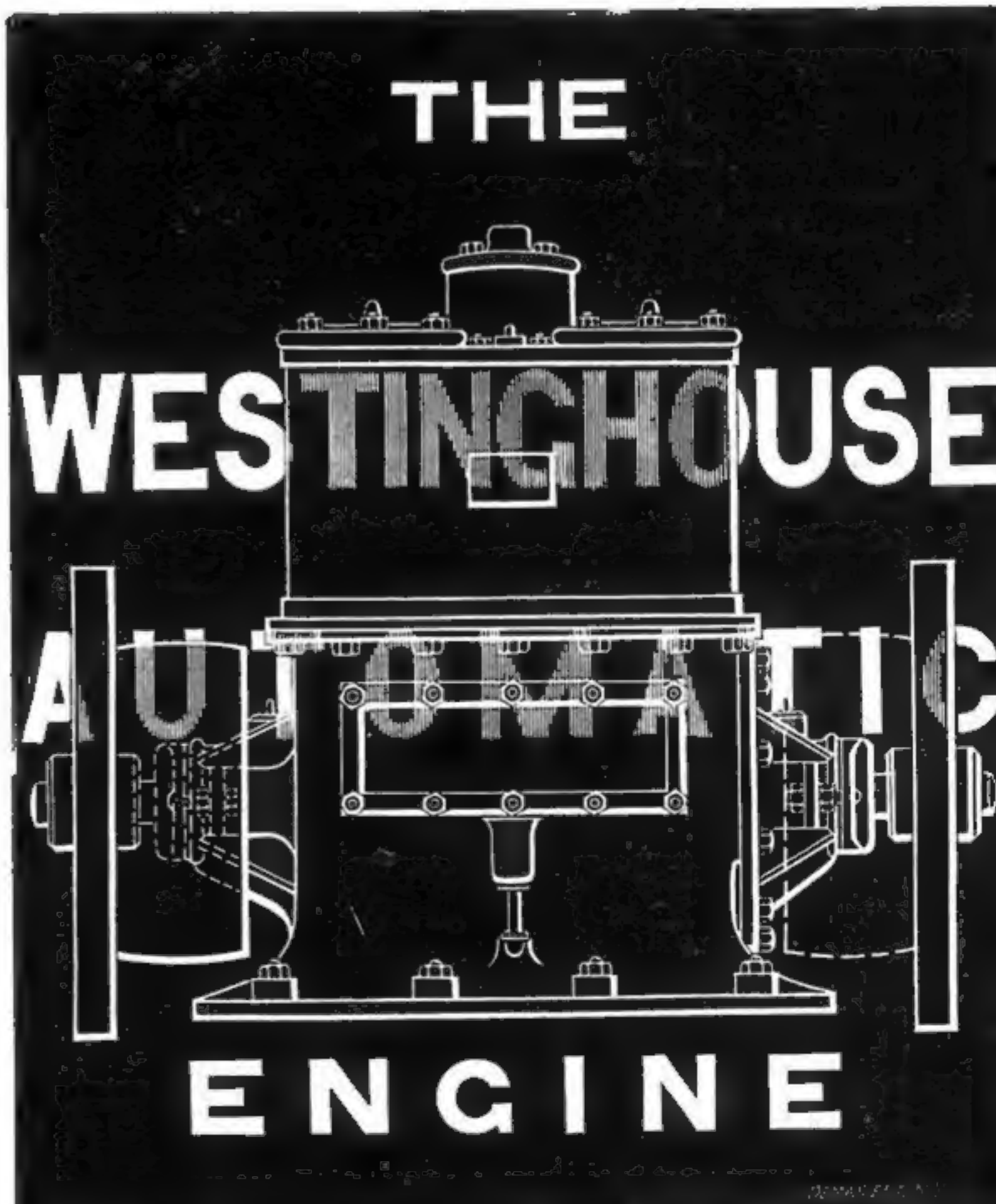
Send for Pamphlet to
S. MORGAN SMITH,
YORK, PA.



This Wheel gives high results, and is acknowledged the best, most practical and efficient Turbine made. For Simplicity, Durability, and Tightness of Gate it has no equal.

State requirements and send for Catalogue to
T. C. ALCOTT & SON,
MOUNT HOLLY, N. J.

Unequalled for Regulation and Low Cost of Operation.



Sales 2,000 Horse Power Per Month.

SEND FOR ILLUSTRATED CIRCULAR AND REFERENCE LIST.

The Westinghouse Machine Company
PITTSBURGH, PA.

SALES ROOMS: 94 Liberty Street, New York. 401 College Street, Charlotte, N. C. 401 Elm Street, Dallas, Texas 53 South Market Street, Nashville, Tennessee. Fairbanks, Morse & Co., Chicago, Cleveland, Cincinnati, Louisville and St. Paul. Fairbanks & Co., St. Louis, Indianapolis and Denver.



THE MILLING INTERESTS OF MINNESOTA.

Every intelligent and public spirited citizen of Minnesota, says the *Winona Republican*, ought to realize the importance of an adequate representation of her resources at the great World's Industrial and Cotton Centennial Exposition to be held at New Orleans during the ensuing Winter. Never since Minnesota became a State has she worthily participated in an international exposition. At Vienna, Philadelphia and Paris she was conspicuous only by her absence. Other States appreciating their golden opportunity have expended liberally of time, money and intelligent labor, and have reaped a correspondingly liberal reward in the nature of large additions both to population and wealth. Why should not Minnesota, unsurpassed in her natural resources, her artificial products, her favorable climate and position now step to the front and win by fair competition with other States and Nations the share of profit and prestige that belongs to her? The apparent indifference and neglect by many of the representatives of her leading industries are hard to explain on any theory either of self interest or of State pride or patriotism. Strong efforts are being made in many directions and in behalf of several leading lines of manufacture. Her educational status is also likely to be amply vindicated by a display at once liberal and creditable.

One of the most important of our industries is the great milling interest. A rough estimate may place the number of mills in this State at about one hundred. Including the large mills at Minneapolis and other points, the average capacity of the whole number daily may be figured at 40,000 or 50,000 barrels, which, at an average of five dollars per barrel, will give a product of \$200,000 to \$250,000 daily. It is not probable that these figures are actually realized, but even at the most moderate calculation the magnitude of the milling interest and its future prosperity are of sufficient importance to justify a vigorous effort and a generous expenditure on the part of those interested to give it the prominence which it deserves. The reputation of the wheat products of this State is second to that of no other part of the country or of the world. Hence our millers ought to be up and doing in order to vindicate that reputation and advance their interests with the millions of consumers from all parts of the country and the world who will be at New Orleans to examine, compare and judge for themselves. And there is no time to be lost. Only two months remain before the opening of the exposition and within one month the exhibits will be due at the place of destination. What do our flour manufacturers propose to do? This is the question that ought at once to be answered. This is the time when they should be promptly moving. Mr. L. C. Porter, of this city, has been solicited to take charge of this department and has consented to do so. No one better qualified by experience, by careful research into the nutritive qualities of the great cereal or by energy or business capacity could have been selected for this responsible trust. What he should have, and have at once is hearty cooperation. For this purpose he asks the millers of the State to correspond with him, and indicate what they are disposed to do, not only to get up a creditable exhibit but to provide for its adequate representation. A general fund has been provided to defray a considerable part of the expenses of collecting, transporting and setting up the exhibit. This will doubtless need to be supplemented by the manufacturers to some extent, in order to provide the many details for a full and effective display. Mr. Porter desires a prompt and general, not to say generous, response to this appeal. It might be well for a conference to be held at an early day at Minneapolis or some other central place to perfect an organization for the purpose of carrying out the desired objects.

Notes from the Mills.

In some parts of Kansas grain remains unharvested for want of the necessary laborers.

Simmons & Sewell, millers, of Virden, Ill., have failed. Liabilities, \$26,000; assets, \$16,000.

At Stoneborough, Pa., Sept. 24, Porter's steam flouring mill was burned. Loss, \$10,000; insured for \$5,000.

D. Shepp & Co. have a new 150 barrel roller mill at Tamaqua, Pa., of which J. Hannan has charge as head miller.

Over two-thirds of California's exports are wheat and flour.

The Case Mfg. Co., Columbus, Ohio, have an additional order from Dietly & Son, Moorheadsville, Pa., for a centrifugal reel.

At Neenah, Wis., Sept. 25, the large elevator of Mr. Coates was burned to the ground, entailing a loss of about \$7,000; insured.

Geo. Graham, Trenton, Mo., write the Case Mfg. Co.: "Your automatic feed would cover a multitude of sins if the rolls had them."

One "Case" improved centrifugal reel will be placed in the mill of John Black, Sycamore, Ill., by the Case Mfg. Co., Columbus, O.

The Albion Mill Co., Albion, Mich., have placed an order with the Case Mfg. Co., of Columbus, Ohio, for one patent automatic feed for their rolls.

Ritcher & Co., Williamstown, W. Va., have decided to put in one three-roll break machine, and have placed their order with the Case Mfg. Co., Columbus, O.

The contract for furnishing the St. Louis city institutions with flour for the coming year has been awarded to Kalbfleisch & Co., of the St. George Mill. The contract price is \$3.83 for extra fancy.

The Westinghouse Machine Company of Pittsburgh, Pa., have recently shipped one of their 160-horse-power Westinghouse engines to the Government of New South Wales, Australia. The machine is to be used in electric lighting.

The Case Mfg. Co., Columbus, O., have been awarded the contract of J. C. Crenshaw, Charleston, Mo., for a full outfit of breaks, rolls, purifiers, centrifugals, scalpers, bolting reels, &c., for a complete gradual reduction mill on the Case system, using twelve pairs of rolls.

The Eagle Mill, of St. Louis has started up with capacity increased to 1,000 barrels. All connections with the new machinery necessary to increase the capacity were made without trouble or inconvenience, and a trial run proved satisfactory in every way. A continued run at full capacity is the programme at the Eagle.

The Canadian Pacific Railroad company have leased 60,000 feet of public land, near the depot at Montreal, on which they will erect two elevators, that will hold 1,000,000 bushels of grain; they will cost \$400,000, and are to be completed by Feb. 1. The enterprise, it is thought, will make Montreal a great shipping point for grain.

While the price of wheat is lower than it has been for several years, the farmers about Anoka, Minn., it is said, have made as much, if not more, money from their wheat harvest than they have in preceding years, acres whose average yields heretofore have been from twelve to fifteen bushels this year have produced from twenty-five to thirty bushels.

A. M. Stevens, Dyersburg, Tenn., has been contemplating changing his mill to the roller system and after investigating the different systems and examining the different machines at the St. Louis Exposition, concluded that the "Case" machines were the ones that he wanted, and accordingly placed his order with the Case Mfg. Co., of Columbus, O., for a complete outfit of breaks, rolls, purifiers, centrifugals, &c., for a full roller mill on the Case system, using fourteen pairs of rolls.

The damage by the fire at Holland, Mich., Oct. 2, to the roller flouring mill of Walsh, De Roo & Co. is from \$15,000 to \$20,000, covered by insurance in the following companies: Ins. Co. of N. America, \$10,000; Germania, \$5,000; Millers' National \$4,000; Phoenix, Hartford, \$2,500; Liverpool and London and Globe, \$2,500; Rochester German, \$1,000; Grand Rapids Fire, \$1,000; Millers' Mutual, \$2,500; Franklin, \$1,000; Springfield, \$1,000; Michigan Fire and Marine, \$1,000; total, \$31,500.

An exchange says that J. E. Timmonds and Michael Welsh, formerly employed at the Anchor Mills, St. Louis, were indicted by the late Grand Jury, charged with conspiracy to defraud their employers out of the sum of \$3,000. The date of the embezzlement is said to have been October 18, 1883. Timmonds was a collector in the employ of the mill, and Welsh was a teamster. The conspiracy and fraud consisted in misrepresenting weights. Although warrants are out for their arrest neither party has been apprehended, although it is probable they will be soon. The indictments against them found by the Grand Jury preceding the last one were faulty, hence the late action.

The little town of New Haven, Mo., says an exchange, can boast of but 800 inhabitants, but all of those 800 point with pride to the "big mill" of Messrs. Geo. and Jacob Wolf; and it surely is a fine establishment, being very large, handsome and fitted out with the best appliances in the way

of rolls, centrifugals, grain cleaners, bran dusters, reels, purifiers, etc., as well as five stones—three for general work and two for custom work. Last spring this mill was completely overhauled at a cost of \$10,000, and an elevator, with a capacity of 26,000 bushels added. The capacity of the mill is 300 barrels. They are making no patent flour at present, but all they turn out is fancy. They ship entirely to St. Louis.

A man named Charles Prance fell from the roof of Schoellkopf & Matthew's flouring mill at Niagara Falls, a few days since, receiving injuries from which he died. Prance was in the employ of J. H. Peters & Son of Buffalo, and was with others engaged in putting a new tin roof on the mill. When he went to work the roof was wet and very slippery. Prance started down the roof when he slid off and fell sixty feet, striking on an iron wheel. He was picked up and taken to his boarding-house, where Dr. Clark examined his injuries and found the skull on the right side broken, and the right wrist, hip, and left knee badly broken. He was unconscious and did not rally. Prance was about nineteen years old and unmarried.

The Pleasantville, Iowa, flouring mill was burned Sept. 27. The fire was first discovered at the top of the building. It is generally believed to have been struck by lightning. The rain fell in torrents for some time before the fire was discovered, and until the building was consumed. Everything about the mill was destroyed, and but for the heavy rain it would have been impossible to have saved several other buildings which stood near. The loss is estimated at about \$6,000, with insurance on about two-thirds the value in the Germania, Franklin and Traders' and Mechanics'. It is not known at present what the proprietors, Messrs. Harrington & Smith, expect to do, but says a correspondent, Pleasantville must have a mill.

"It is now settled," says the *Winnipeg Commercial*, "that we are going to have no storage elevators at Winnipeg in time to handle the present crops. There will, in all probability, be some 5,000,000 to 6,000,000 bushels of wheat, not to mention other grain, available for export, and the great bulk of this will have to be shipped east over an all-rail and very expensive route, for there really is no place to store it in the country. The C. P. R. have one small elevator of not more than 250,000 bushels capacity at Port Arthur, and another with a capacity of 1,000,000 bushels is in course of construction there, which will not be ready in time to be of any value for the handling of the season's crop. The millions of bushels available for export are therefore dependent for storage upon this one elevator."

An unfortunate accident occurred at the Niagara Elevator in this city Oct. 4. The steam barge Jim Sheriffs was discharging a cargo of 60,000 bu. of wheat from Detroit. A bulkhead had been constructed at Detroit just aft of the forward hatch to hold 8,000 bushels. It was made of inch boards by the steamer's crew. When the leg had elevated all of the wheat in this compartment but about 500 bushels, the side of the bulkhead gave way, falling upon four grain shovellers who were between it and the leg. The wheat from amidship poured rapidly upon the men. Thomas Daley, aged 18 years, was smothered to death before he could be extricated. John Ward, William Ryan and Michael Ryan were more or less hurt, but it is thought not seriously. The remains of the bulkhead were examined late in the afternoon by several carpenters, who stated that so far as they could discover, it had been properly constructed and braced. It is probable that a suit for damages will result from the accident.

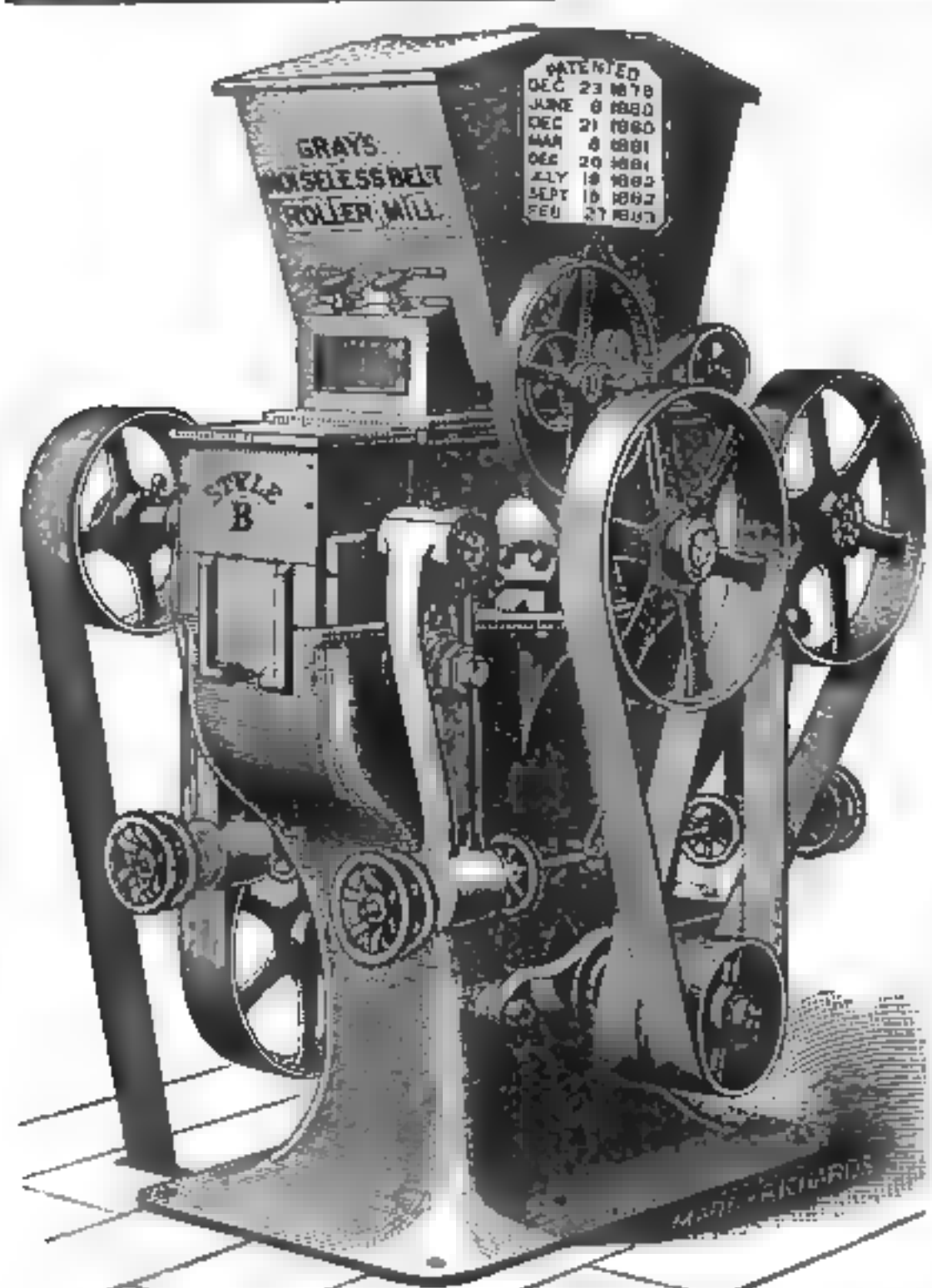
"The charge imposed by the trunk lines of one cent a bushel on all grain loaded into ocean vessels at elevators," says the *Rochester Herald*, "was an invention of Mr. Vanderbilt, and acquiesced in by the Erie, for the purpose of compelling through contracts to be made for grain from Chicago to Liverpool, thus furnishing more surety freight for Mr. Vanderbilt's line of freight steamers. The Erie also has a line of steamers which it favors, and the Pennsylvania was ready to co-operate in the undertaking because it was largely interested in what is known as the American line, from Philadelphia to Liverpool, the ships of which, having proved their liability to live on patriotism under the heavy shipping tax, are about to be sold to a company that will sail them under the British flag. The tax of one cent a bushel levied by the railroad is not much in itself, but in these days of close competition and narrow margins it is enough to send grain by water that otherwise would go by rail; and from this being the fact, it may be supposed that the grain trade will be met in an amicable mood by railway officials, and the grievance partially remedied if not wholly removed."

Edw. P. Allis & Co., of the Reliance Works, Milwaukee, Wis., have recently received the following orders for their justly celebrated engines,

and have several more large orders coming in the near future: Bonesteel & Turner, of Springfield, D. T., a 14x36 Reynolds patent automatic cut-off engine, complete with boiler, heater, pump, etc.; Milwaukee Industrial Exposition, Milwaukee, Wis., a 12x36 Reynolds patent automatic cut-off engine; Osceola Mining Co., Ogechee, Mich., a pair of 20x60 hoisting engines complete; Henry Glade, Grand Island, Neb., a 14x36 Reynolds-Corliss engine; St. Louis Exposition, St. Louis, Mo., a 32x60 Reynolds-Corliss engine; Dennett Harvester & Machine Works, Milwaukee, Wis., a 14x36 Reynolds-Corliss engine; Pettit, Robinson & Co., Minneapolis, Minn., a 26x60 Reynolds-Corliss engine, complete, with steel boilers, Reynolds feed water heater and purifier, etc.; Washburn Mill Co., Minneapolis, Minn., a 30x60 Reynolds-Corliss engine; J. W. Trowbridge, Wymore, Neb., a 10x30 Reynolds-Corliss engine, complete. They are also furnishing a complete steam power for a large elevator at Ft. Williams, owned by the Canadian Pacific R. R. Co., and are putting in a 32x48 Corliss engine, steel boilers, etc.

The General Freight Agents of the fifteen railroads centering in St. Louis have issued the following notice to grain dealers and shippers: On and after October 1, 1884, the following rules will govern regarding charges on grain received at St. Louis, East St. Louis, Venice and Carondelet: Grain in bulk consigned to St. Louis, East St. Louis, Venice and Carondelet local will be delivered to elevators after arrival, unless way billed for track delivery, or held out by order of consignees. Grain held out, and afterwards ordered to connecting lines, private tracks, or to elevators, will be subject to a charge of \$2 per car for switching. Grain billed for track delivery, and afterwards ordered to elevators, to private tracks, or to connecting lines, will be subject to a charge of \$2 per car for switching. Cars to be unloaded on team tracks must be unloaded within forty-eight hours after being placed in position to unload; and if owners should desire cars reconsigned to other lines, private tracks, or to elevators, must be so ordered within twenty-four hours after arrival. Delay beyond these hours will subject cars to a charge for demurrage or trackage of \$2 per day, or any part of a day thereafter—the companies reserving the right to deliver to elevators at owner's expense. Grain destined to points beyond St. Louis, East St. Louis, Venice and Carondelet, and so billed, if held for inspection, a charge of \$2 per car will be made. For switching to private tracks, warehouses, or elevators, not on the tracks of receiving lines, additional charges will be made for switching, according to location.

It is evident, says the *New York Commercial Bulletin*, that we are about to have a revival of the old contention between the grain shippers and the railroads concerning the charge of one cent per bushel on grain loaded at the latter's elevators. It is, of course, impossible to foretell the result of the proposed conference with the trunk line agents, albeit some of them are strongly inclined to abolish the impost altogether. The facts, as they came out in evidence before the State Railroad Commission, before whom, it will be remembered, this subject was argued last year, developed a somewhat remarkable state of affairs. They showed that the New York Central was willing to grant the concession asked for, but was restrained from so doing by the action of the other grain-carrying lines. Now, it was generally acknowledged that the tax was an onerous one on the commerce of this port. No one even denied that its exaction was the means of diverting trade from New York to other and less naturally favored cities on the Atlantic seaboard. It was also shown that the bills of lading provided that the grain should be delivered on the wharf, or free on board, and that this provision was broken both in its letter and spirit. The unusual spectacle was presented of a great trunk road—perhaps the greatest in the country—not being able to perform its duty to the merchants from whom it derived much of its support. Its attitude in this respect has unquestionably turned away many million bushels of grain which ought to have been handled in this port; the usefulness of the elevators has been destroyed. Yet, the odious tax is still, in face of these facts, retained. Now, it is evident that the ships will not go up to the docks to load, and lighterage continues as indispensable as before. But why, it may be asked, should the roads charge the one cent a bushel for elevating when they admit that it would be a matter of satisfaction, and no loss to them, if it were done away with? The truth is, this whole system of equalization is nothing but discrimination; and if one or two of the roads, through a private understanding, continue to deprive our merchants of their just rights, they must expect to see the prows of the vessels turned away towards competing ports on the Chesapeake or elsewhere, where they will be likely to secure terms on less inequitable conditions.



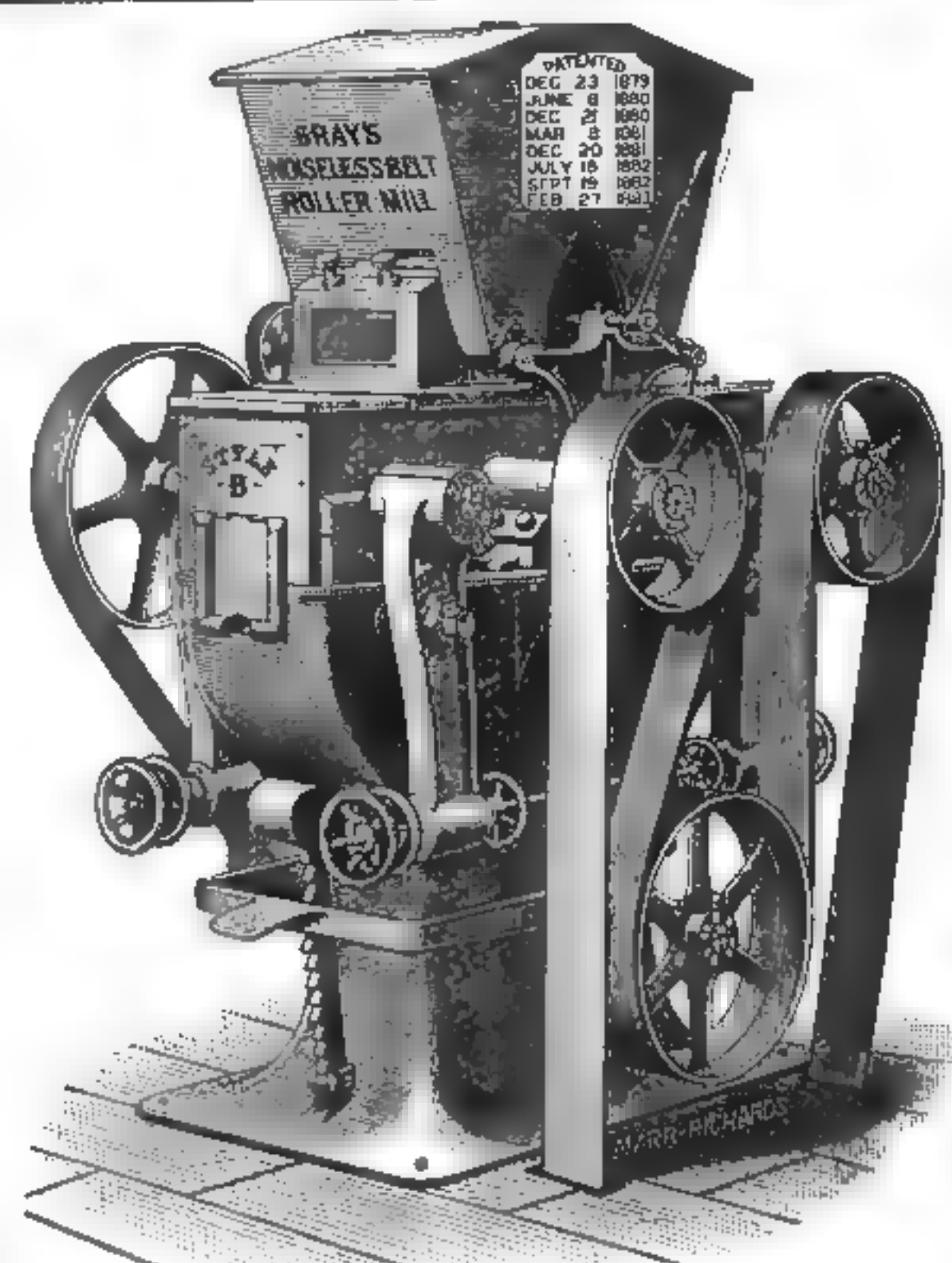
GRAY'S NOISELESS BELT ROLLER MILLS. STYLE "B" for SMALL MILLS

Send for Circulars and Prices.

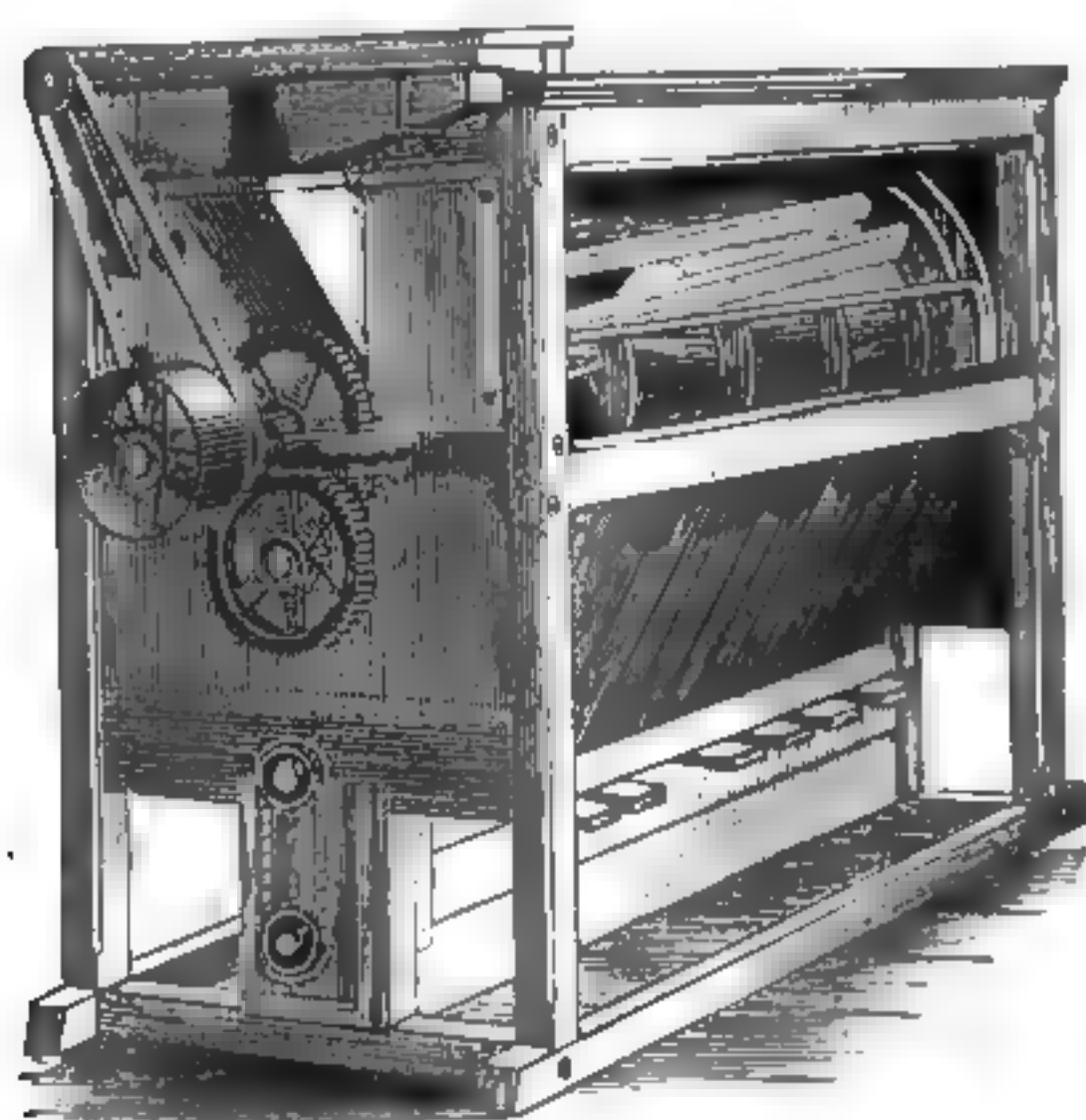
E. P. ALLIS & CO.

SOLE MANUFACTURERS.

RELIANCE WORKS,
MILWAUKEE, . . WIS.



C. N. SMITH'S CENTRIFUGAL REEL



IS BEYOND QUESTION THE
BEST IN THE MARKET
AND IS SOLD FOR
THE LEAST MONEY
While the operation of every
Machine is
FULLY GUARANTEED.

Send for Prices, Lists of
Testimonials, and De-
scriptive Catalogue.

READ THIS LETTER. THEY WILL DO AS WELL FOR YOU.

Office of Ludlow Mills, Dayton, Ohio, April 23, 1884.
MR. C. N. SMITH.
We have been running the two Centrifugals since February, the first without any stop whatever, and are well
pleased with them. We throw less stock on our Rolls, and make four to five per cent. less Low Grade than
before we had the Machine. You can refer any one to us and we will be pleased to give it a good send off.
Wishing you success, we remain,
Yours respectfully,
CHAS. S. DUKST, Supt.

CHAS. SHURY, Head Miller.

MANUFACTURED ONLY BY

C. N. SMITH, DAYTON, OHIO

MANUFACTURER OF MILL FURNISHINGS.

GOVERNORS { For Water Wheels } Cohoes Iron Foundry & Mch. Co.
Send for Catalogue. Cohoes, N. Y.

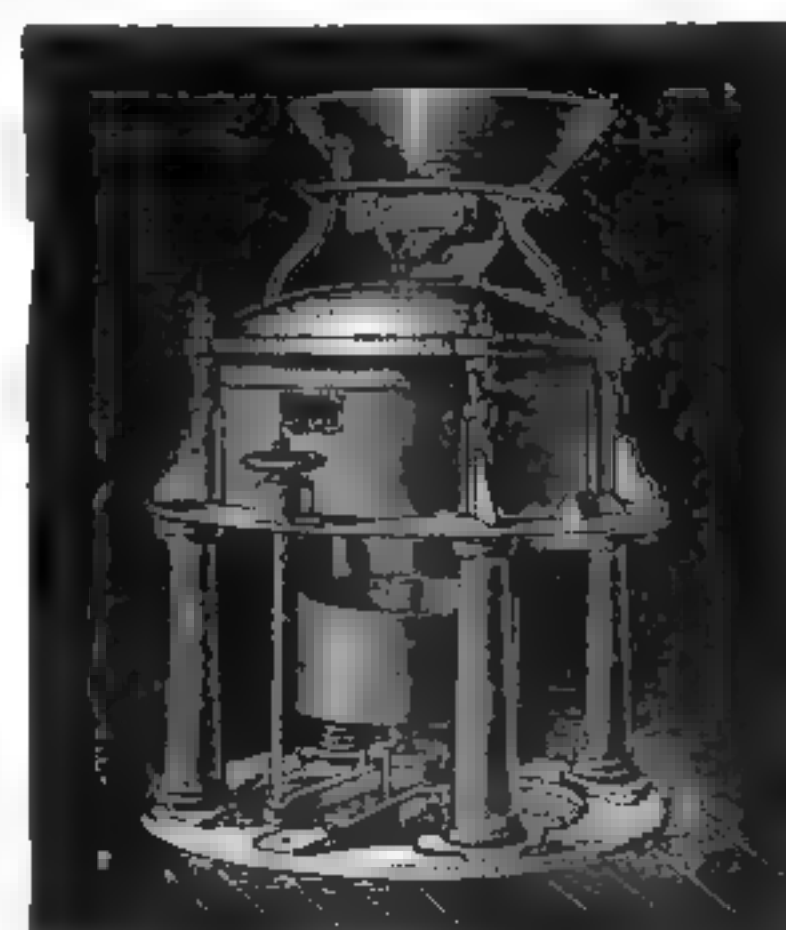
WIRE BOLTING CLOTH—STEEL, BRASS AND TINNED



ESTABLISHED 1844.
Exclusive Manufacturers of the
"ACME"
STEEL TEMPERED
Battery & Bolting Wire Cloth.
Also Manufacturers of
Brass Duster Cloth, Plated Wire Mill Screen Cloth
Smut Cloth, Brass and Copper Wire Cloth.

A full line constantly on hand. Send for samples and price lists.

Brooklyn Wire Cloth Works, NO. 107 JOHN STREET, New York.



MUNSON BROS.

MANUFACTURERS OF
Munson's Celebrated Portable Mills,
FOR WHEAT, MIDDINGS, CORN, FEED, Etc.
Millstones, Hangings, Bolting Chests, Shafting,
Gearing, Pulleys, Hangers, Etc.

DEALERS IN EVERY KIND OF
MILLING MACHINERY,
ENGINES AND BOILERS, WATER WHEELS, Etc.
Genuine Dufour Bolting Cloth.
Specifications, Estimates and Plans furnished.

Address, **MUNSON BROS.**
P. O. BOX 360. UTICA, N. Y.

THE BEST AND CHEAPEST COB CRUSHER IN THE WORLD.

Steel Being Used in its Construction.

PRICE, 30.00.

RIGHT-HAND MILL.

CAPACITY 75 BUSH. PER HOUR.

Thousands of these Crush-
ers are now in use, and
giving entire sat-
isfaction.

Please Send for Circulars.

R. C. McCULLEY, LANCASTER, PENN.

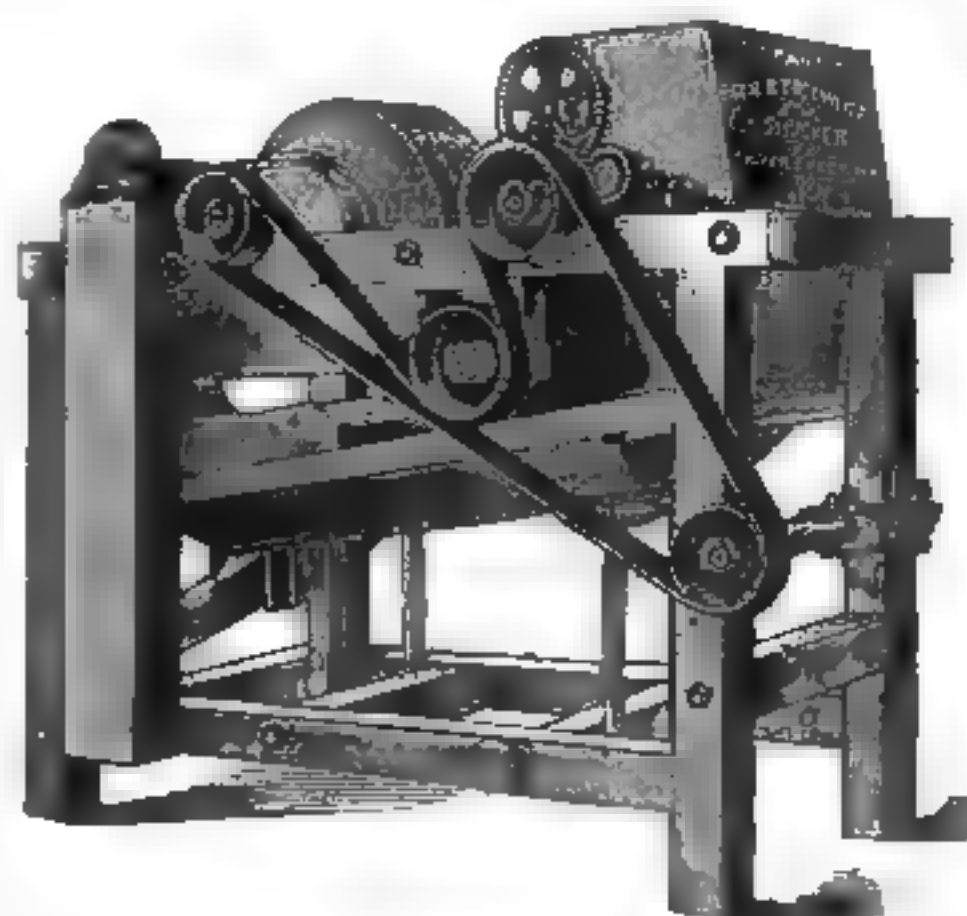


BUCKWHEAT MILLERS

WILL FIND IT TO THEIR DECIDED
ADVANTAGE TO INVESTIGATE THE
CONCEDED MERITS OF

**CRANSON'S SILVER CREEK;
ROLLER BUCKWHEAT SHUCKER**

ITS SUCCESS IS BEYOND QUESTION.
ITS VALUE HAS BEEN DEMONSTRAT-
ED IN MORE THAN 800 CASES. IT
IS THE ONLY PERFECT BUCKWHEAT
SHUCKER IN THE WORLD.



G. S. CRANSON & SON, SOLE PROPRIETORS SILVER CREEK, N. Y.



THE INDIAN WHEAT HARVEST OF 1884.

THE Revenue and Agricultural Department of the Government of India have issued a memorandum recalling that in a resolution of March last the Department attempted to determine the area ordinarily placed under wheat in British India and the Native States, and to estimate the outturn in an average year, the *Miller's Gazette* tells us. The broad conclusions arrived at were that the total wheat area in India is about 26,000,000 acres, of which 20,000,000 acres are in British India and 6,000,000 in Native States. The total yield in a fairly good year was put at 135,000,000cwt, or 30½ million quarters, giving an average outturn of 9½ bushels per acre. Since the conclusion of the year's harvest, reports have been received from the chief wheat-growing provinces as to the comparative area and outturn of the crop of 1884. The information may be thus summarized: In the Punjab the harvest in the southeastern division, known as the Delhi and Hissar territory, has been very indifferent, and in some of these districts is described as a complete failure on unirrigated lands. But in the central and northern portions of the province, both the acreage and yield have been above the average, and this has more than counter-balanced the deficiency in the south-east. On the whole, the yield in 1884 may be estimated as above the average. The average area is given in the Government of India's resolution as 7,000,000 acres, and the average yield 9.3 million quarters. The yield for 1884 may, therefore, be put at 10,000,000qrs.

In the North-Western Provinces and Oude, which in the Government of India's resolution is shown to come next to the Punjab in respect of wheat area, the area under wheat in 1884 appears to have been fully up to the average. The yield, however, was somewhat short in many districts, owing to the deficiency of the autumn and winter rains. Estimating the area at 6.2 millions acres, and allowing for indifferent crops, the outturn for 1884 might be put at 7.5 million quarters. The average yield per acre in these provinces is probably somewhat larger in ordinary years than in the Punjab. In the Bombay Presidency the yield per acre this year is reported to be generally above the average. The acreage appears to have been up to the average, except in Scinde, where the yield was average.

The area ordinarily under wheat in the Presidency is about 16 million acres, and on this basis the probable yield this year is 2,000,000 qrs. In the Central Provinces the harvest has been excellent and the outturn is put fully 15 per cent above the average. In the resolution referred to the average area is put at 4,000,000 acres, but the yield per acre is ordinarily less than in Northern India. Taking into account the excellent character of the harvest and the breadth of land under crop, the outturn in 1884 should not be less than 5,000,000 qrs. The four provinces from which reports have been received should thus yield a total of 24½ million quarters. Reports have not been received from Bengal, Berars, or the wheat-growing native states of Rajpootana and Central India. But enough is known to anticipate that the total wheat outturn of India this year comes up to the average of 30½ millions qrs. It is difficult, perhaps impossible, to estimate how much of this is available for export.

In the calendar year 1882 the export was 15,500,000cwt, and in 1883 it was 22½ million, and this without any effect in raising

prices. It may therefore be inferred that with a good rainy season following an average wheat crop, so as to secure the autumn harvest, at least one-fifth of the wheat harvest can be spared for export without materially enhancing prices. As regards existing stocks, it was remarked in the Government of India's resolution that in consequence of the low prices ruling in Europe the export for the quarter ending December last had greatly contracted, and that the continued cheapness of wheat in India indicated the existence of considerable stocks. Since January the wheat exports have been moderate, the total quantity exported for the six months ending the 30th of June being 2,690,000cwt, against 10,990,000cwt in the corresponding months of 1883. The export in April was 637,000cwt; in May, 1,422,000cwt; and in June, 1,857,000cwt. The total exports for May and June were 3,280,000cwt, against 6,166,000cwt for those months in 1883. Wheat prices in the chief up-country markets are slightly lower than at the beginning of the year, and in the resolution referred to above it was shown that the prices ruling in January, 1884, were lower, in spite of the large export in 1883, than they were in 1882.

NOTES.

Minister Williams says there has not been a business failure in Uruguay for two years and a half.

A French writer says: "The losses of the farmers of France on their grain crops of 1884 are upwards of a thousand millions of francs."

Mexico promises a brilliant display at the New Orleans Exposition. In the center of the Mexican garden a Moorish octagonal building is being erected. In the inner court of the portico is to be a specimen of silver, valued at \$240,000, supported on amethyst pillars. One palm tree for this garden required the work of more than 200 natives to take up and transport it.

A movement is on foot to form a millers' association for the Australian colonies under the name of "Australasian," embracing the seven Australian colonies and New Zealand, although separate organizations may be formed. The total number of mills is 573, the largest number being in New South Wales, 150, and 139 and 102 respectively in Victoria and New Zealand. The pairs of millstones returned for the four colonies were 1,011, of which Victoria had 439.

An apparatus has been invented in Austria for the drying of flour. It consists of five iron compartments, one above the other, with double partitions between, communicating with each other by pipes. A rotating vertical axis passes through the machine and gradually lifts the flour, by means of blades, to the highest division. Meanwhile the different compartments are heated by steam, which enters at the bottom, and cools as it ascends, varying between 35 and 70 degrees. The vapor generated by the flour is carried off in pipes.

British trade returns for August show, for the first time this year, a perceptible shrinkage. The falling off in imports exceeds 18 per cent in value and probably 10 per cent in quantities as compared with last year. In iron ore the decline is as much as 40 per cent, in wool 43 per cent and in jute 61 per cent. It is explained, however, that the imports of these articles were exceptionally large in August, 1883. In exports the falling off is slight, being only 7 per cent in values, which may mean not more than 3 or 4 per cent in quantities. The exports of linen, woolen and worsted fabrics show an increase of 25, 18 and 20 per cent respectively, while those of iron and steel decreased 25 per cent.

Touching the commerce between this country and South America, Minister Gibbs writes: "As long as American merchants sit quietly at home and wait for the business to go to them, there will be no commerce with these South American countries. The Germans, particularly, come to these Republics and bring capital of their own, or are supplied by large houses in Europe. Generally well conversant with the English and Spanish languages, they go to work, locate themselves fairly in the country and in a few years build up a large trade. They are not going to send to the United States for merchandise even superior and as cheap. They are bound by many interests to send to Europe for their goods, and, as a matter of course, they pay for their imports by products of the country, which are all sent to Europe, where the trade and all the exchange come from, all in sterling and no dollars."

From a report on the Continental corn trade, published by the *Frankfurter Zeitung*, we learn that the recently announced activity of Hungarian corn exports does not appear to have produced much influence on the South German markets. Hungarian grain will evidently have a very stiff fight of it this year with Russian and American produced: for, as the *Pesther Lloyd* points out, good Wolga wheat is being sold at St. Petersburg at the unprecedented price of 16 marks per 100 k lbs, free at Mannheim. Even the Americans will experience great difficulty in competing with Russia on these terms, whilst the Hungarians will be very sorely pressed on the Swiss and South German markets, where the hard Russian Wolga wheat—especially the red Saxonka—is greatly prized by the fine-grinding millers.

The acreage of wheat in the United Kingdom has been in a few years reduced upwards of 800,000 acres, with the prospect of a further reduction of area in consequence of the poor financial returns to the farmers. There will in all probability be a reduction of the wheat area in France, although for many years past the acreage under wheat has not greatly varied. The tendency in the United States, with the large area of virgin soil and the large immigration, to expand every year the area under cereals. If the area under cereals in Europe shall be much diminished because of unprofitableness, it may be the part of wisdom to still expand the area under cereals in the United States. The ratio of the expansion of the area of cereals in the United States has been very considerably larger than the ratio of increase by the population.

Russia has resolved to develop her system of railway communication on an enormous scale, and for this purpose has just contracted a loan of \$75,000,000, to be expended during the next few years. India has already built lines of railway penetrating the furthest provinces. Australia has also made long strides in the same direction. Next in order is the Argentine Confederation, in South America, which is building four additional trunk lines of railroad at a cost of \$28,000,000, to connect Buenos Ayres, her principal seaport, with the vast granaries opening up in the pampas of the interior. In every case the ultimate purpose is to overcome all impediments in reaching the central grain markets of Europe. And, in spite of all this, says

the *British Trade Journal*, American grain speculators continue their efforts to artificially maintain the price of wheat, as though there were a great deficiency in the supply of the world, and the nations would eventually have to come to them begging the privilege of being allowed to purchase some of their surplus.

"I UNDERSTAND your husband has gone to Geneva?" said the Major to Mrs. Fitzfare. "Oh, no," she said, placing a silk handkerchief to her eyes; "my husband died some two months ago." "Humph!" returned the Major, abstractedly; "Then he has gone to Berne, I knew it was some place in Switzerland."

THE BOSS ELEVATOR CUP

is gaining favor every day. Over 13,000 sold in one day in three different States. My capacity in my new shops is 6,000 per week. I carry 80,000 cups in stock and can take care of any size order. W. P. MYER, 19 and 21 E. South St., INDIANAPOLIS, IND.



The Best Conveyor Flights and Cogs. The Best ELEVATOR CUPS



A. H. FAIRCHILD & SON, North Bloomfield, Ont. Co., N. Y.

CASE. CASE.



Freight rates are an item of importance. Notice our shipping facilities.

as he writes us "They are the best made Roll on the market. Your 'Bismarck' beats them all. I am surprised at their beauty and finish, and they run like daisies. Had I known this I would have been selling them all the time."

The name of this man, and the Roll he was selling, will be given to any one who wants it. We can surprise others the same way.

CASE MANUFACTG. CO.
COLUMBUS, - OHIO.

JONATHAN MILLS UNIVERSAL FLOUR DRESSER.

Guaranteed to be superior to any other bolting device for clear, clean bolting or rebolting of all grades of Flour.

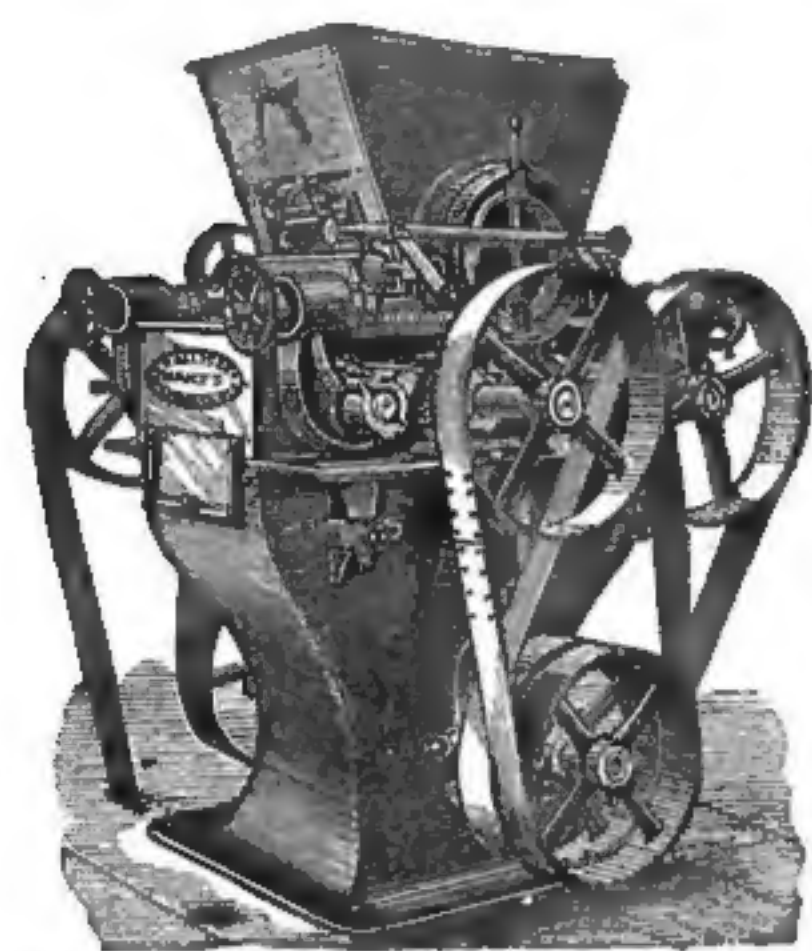
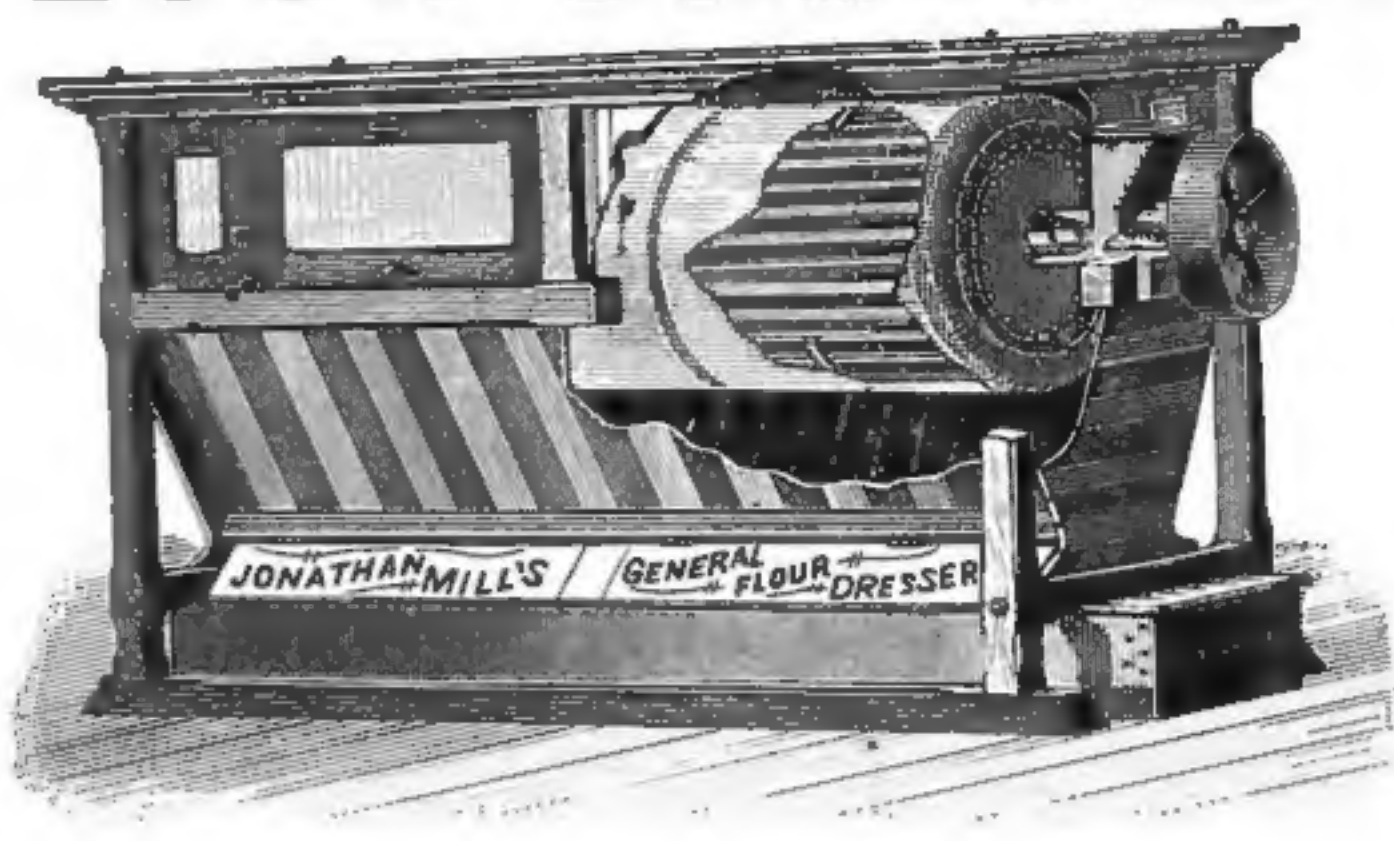
FINELY DESIGNED AND MECHANICALLY CONSTRUCTED.

SLOW SPEED. OCCUPIES SMALL SPACE, AND HAS IMMENSE CAPACITY.

For Price List, Sizes, and Dimensions, Send to

THE CUMMER ENGINE CO., CLEVELAND, OHIO.

Send also for 150 Page Catalogue Describing their Engine.



THE BRADFORD MILL CO.

Manufacture a Complete Line of

FLOUR MILL MACHINERY.

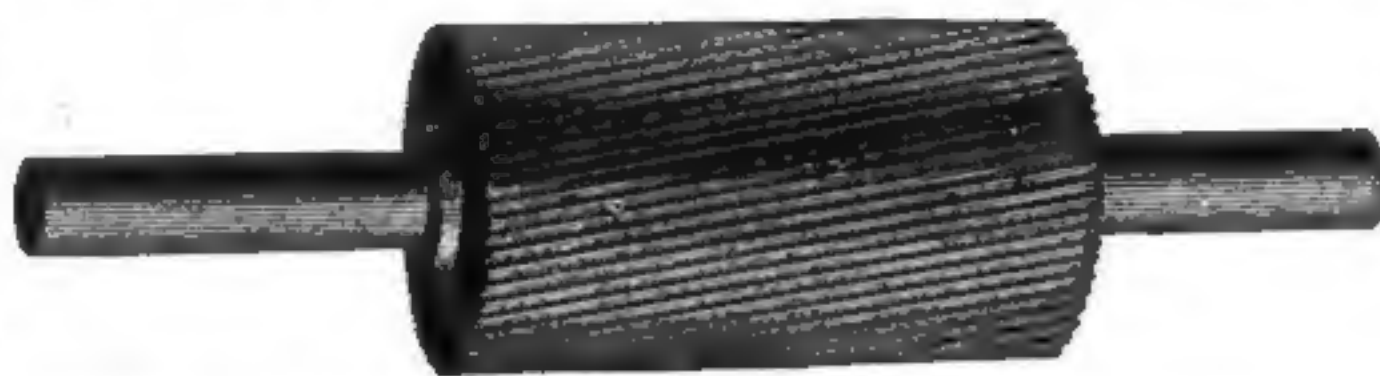
Including Portable Corn and Middlings Mills.

RE-GRINDING AND RE-CORRUGATING

PORCELAIN

ROLLS

RE-GROUND.

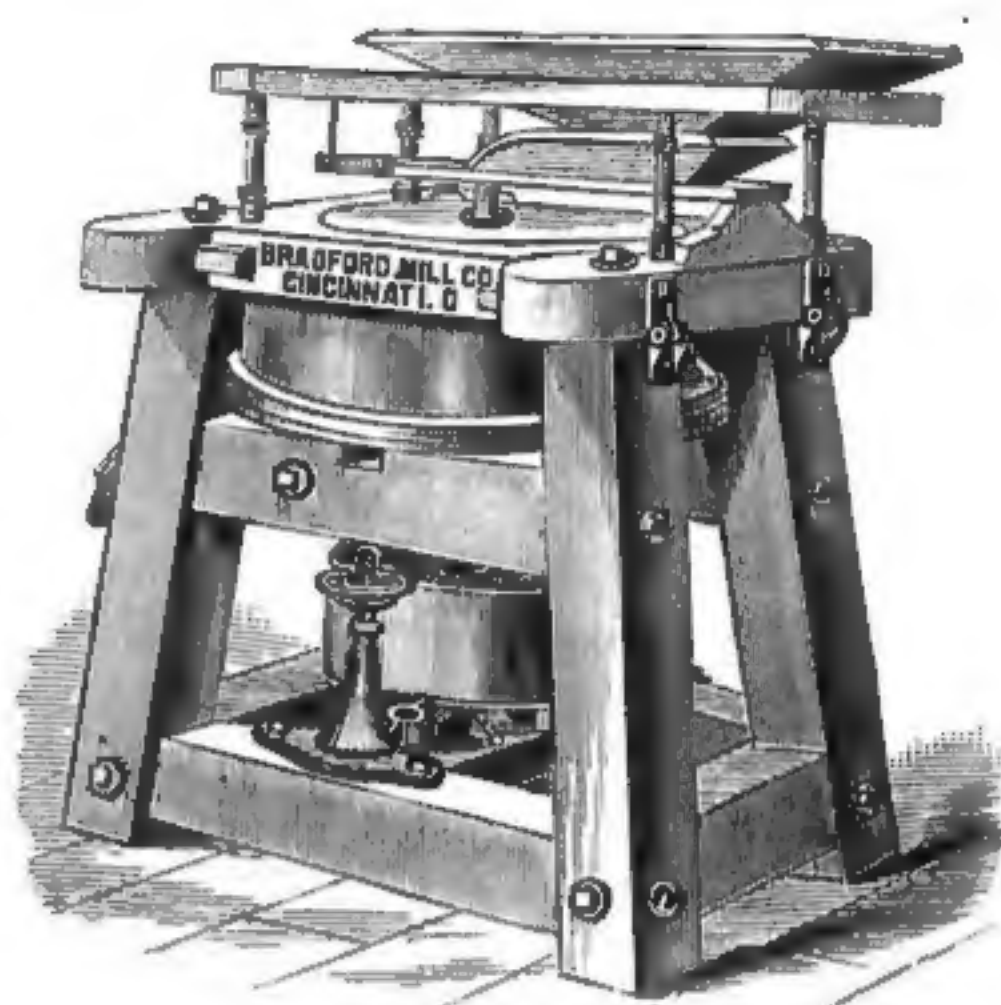


CHILLED IRON

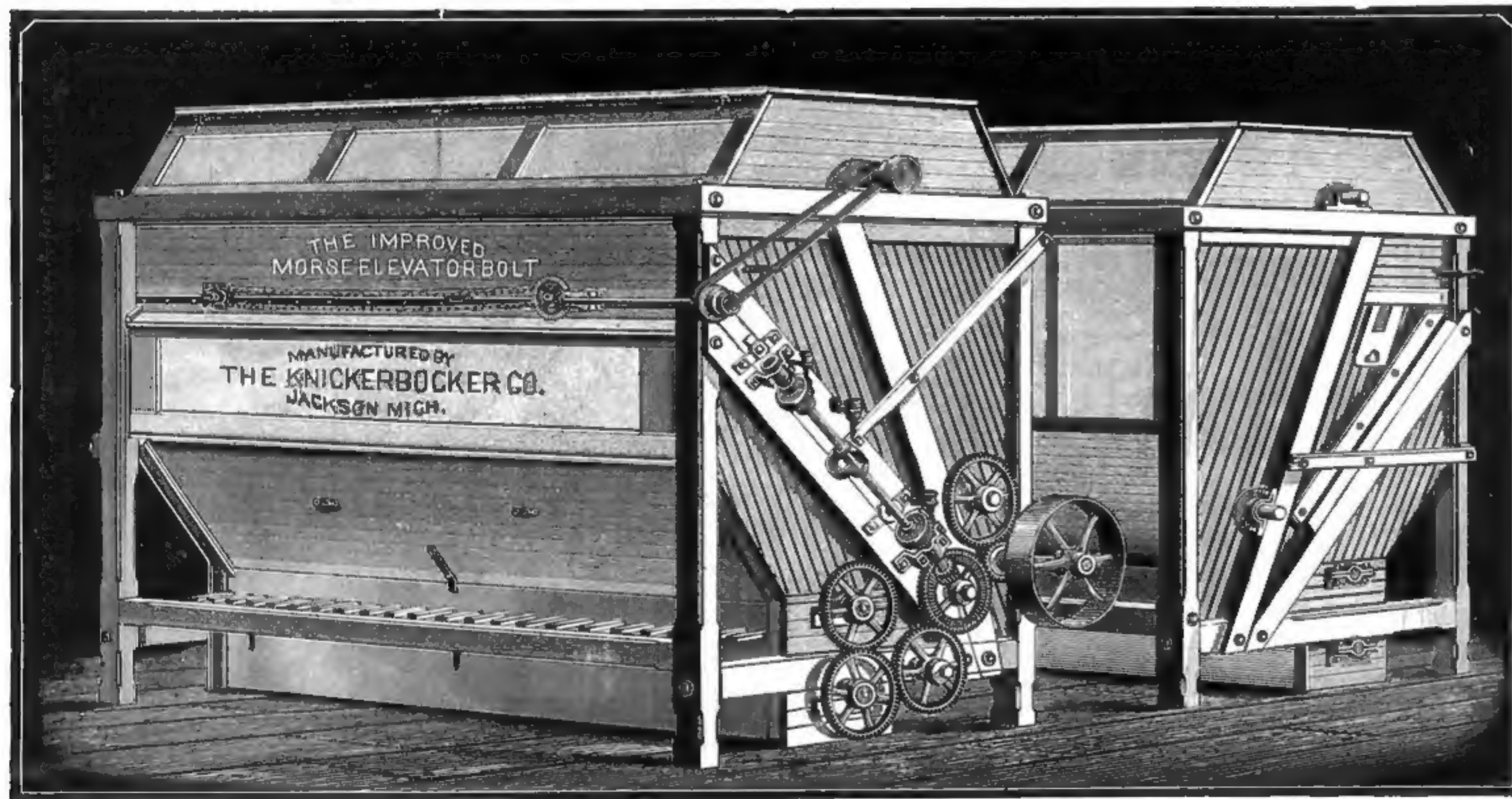
ROLLS

Re-Grind and Re-Corrugated.

EIGHTH AND EVANS STREETS, - CINCINNATI, OHIO.



The Improved Morse Elevator Bolt.

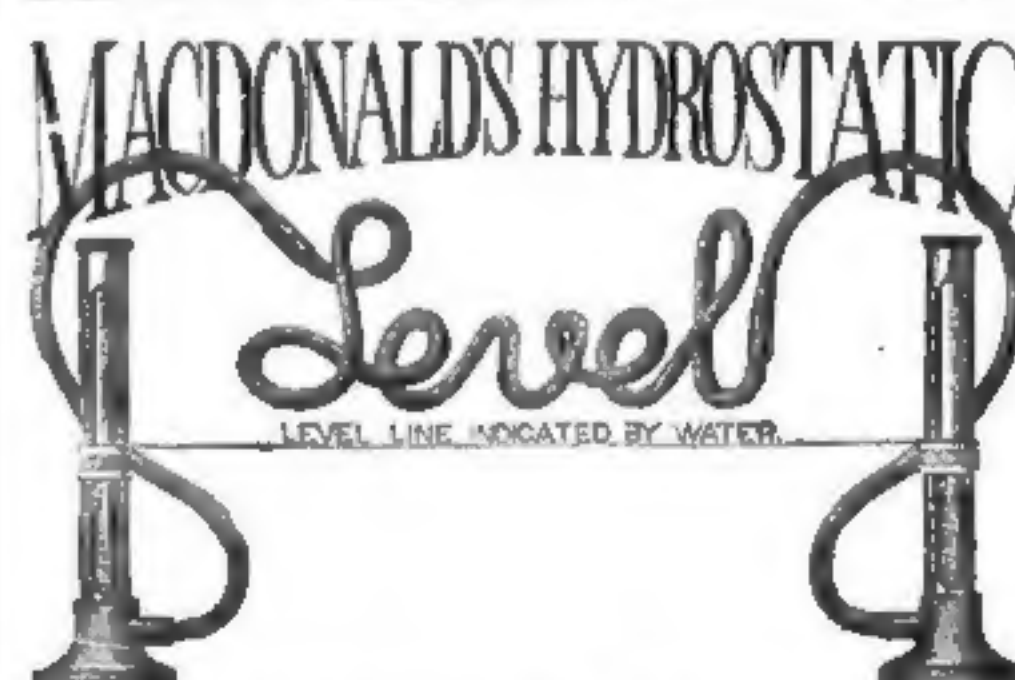


DEMONSTRATED IN OVER 100 MILLS TO BE THE BEST BOLTING DEVICE KNOWN.

THE KNICKERBOCKER CO., JACKSON, MICH.



A tool for Cutting, Leveling and Polishing the Furrows and Face of Millstones.
Eight inches long, 2 1/4 inches wide, 1 1/2 inches thick. Received the highest and only Award given to Polishers at the Millers' Exhibition, Cincinnati, Ohio, June, 1880. For facing down high places on the buhr, this tool has no equal, and can be done much better and in one-sixth the time than with the mill pick. It is much larger, cuts better, can be used on either face or furrow, can be used until the corundum is entirely worn out on one side and then turned on the other side. Has over four times the amount of corundum and when the corundum is worn out can be replaced in the handle at a small cost. Sent by express, \$3.50. Satisfaction guaranteed, or money refunded. Address
HORACE DEAL, Bucyrus, Ohio



Sight-lines, targets, straight-edges and all other fixings, as well as the extra time and help required to work them with the spirit level, done away with by this instrument.
Jas. Macdonald, 55 Broadway, New York.

CAREY'S DOUBLE ANCHOR BOLTING CLOTH

Best in the Market. Every Yard Guaranteed Always up to Standard Count.



REGISTERED TRADE MARK.

SOLID COTTON BELTING. MILL PICKS.

FINE FRENCH BURR & ESOPUS MILLSTONES

BELTING.
PORTABLE MILLS.
SMUT MACHINES.

ELEVATOR BUCKETS,

BRUSH MACHINES, AND
MILL FURNISHINGS GENERALLY.
Send for Catalogue and Price List.

SAMUEL CAREY, 17 Broadway, NEW YORK.

HAS BEEN AWARDED
FIRST AND ONLY PREMIUM
AT THE
Millers' International Exhibition.



Office of THE MILLING WORLD.
Buffalo, N. Y., Oct. 8, 1884.

The frequency with which we have been assured that farmers would refuse to market their wheat at current low prices led many to believe that those giving such assurances had private sources of information from which to justify the position they assumed. How sadly in error such prophets have been and are, may be inferred from the simple statement that the interior movement not only maintains its large proportions, but increases. The aggregate receipts at all points yesterday were 563,000 bushels and the car lot receipts were heavy. C. i. f. wheat has been placed in large quantities on the New York market, and arrivals at Buffalo of three-quarters of a million was a warning of large canal receipts. The receipts at New York were 361,000 bushels, while export clearances were small and the export demand still smaller.

The New York flour market has shown a slight improvement on the lower grades. The demand has been mild, and mostly for the very low grades or of the very good grades, intermediate brands receiving less attention. The steadiness of low grades is accounted for by their relative scarcity. Exporters have shown no eagerness, and the city demand has been limited. Bag stuff was quiet, on a moderate business. Corn meal was steady, with holders more disposed to accept offers.

FOREIGN EXCHANGE.

The market for sterling was inactive, and long bills have been rather neglected, owing to anticipated higher prices for money in London. Cotton bills are in fair supply. Posted rates closed at 4.83 for sixty days' and 4.85 for demand. The actual rates ranged: At sixty days' sight, 4.81½@4.81¾; demand, 4.84¼@4.84½; cables, 4.84¼@4.85, and commercial, 4.80¼@4.80½. Continental exchange quiet and not strong; francs, 5.23½@5.22½ and 5.20½@5.20; reichsmarks, 94½@94¾ and 95@95½; guilders, 39¾ and 40¾. The closing posted rates were as follows:

	80 days.	30 days.
London.....	4 88	4 85
Paris francs.....	5 20½	5 18½
Geneva.....	5 20	5 17½
Berlin, reichsmarks.....	94½	95½
Amsterdam, guilders.....	40	40½

BUFFALO WHEAT MARKET.

Buffalo, Oct. 8, 1884.

Market for all kinds of grain very dull. The receipts of Duluth wheat the past week were 791,000 bus, the largest we have ever received from that port in one week. Winter wheats are arriving in large quantity and are shipped to New York. We quote No. 1 Hard Duluth 87, No. 2 Hard 84, No. 1 Northern 83½, No. 2 Northern 80c. No. 1 white 83, No. 2 white 78, No. 2 Red 84. No. 1 longberry 86½, No. 2 longberry 83. Corn dull, no straight No. 2 offering, No. 3 53c, lower grades 50@52. Oats, few car loads on track offered at 30@32½. Other grain nominal.

JAMES S. MCGOWAN & SON.

BUFFALO MARKETS.

FLOUR—City ground clear Northern Pacific spring \$4.75@5.25; straight Northern Pacific spring, \$5.25@5.75; amber, \$5.25@5.35; white winter, \$5.00@5.50; new process, \$6.25@6.75; Graham flour, \$4.25@5.25. Western straight Minnesota bakers, \$5.00@5.25; clear do, \$4.75@5.25; white winter, \$5.00@5.25; new process, \$6.25@6.75; low grade flour, \$2.50@4.00. **OATMEAL**—Ingersol \$5.75; Bannerman's \$6.00; Akron \$6.25. **CORNMEAL**—Market steady, with a fair demand. Coarse, \$1.15; fine, \$1.25 per cwt. **RYE FLOUR**—In fair demand \$4.00@4.25. **BUCKWHEAT FLOUR**—Demand fair at \$3.50 per cwt. **WHEAT**—Market ½c lower. Sales 1,800 bu No. 1 Northern at 84c, and 16,000 bu No. 1 hard Northern Pacific at 87c; at the Call Board, 87½c asked 86c bid cash, 87½c asked 85½c bid Oct; No. 1 white winter offered at 83½c and red at 87½c. **CORN**—The only sale reported was one car-load choice sample at 60c. **OATS**—Steady. Sale three carloads No. 2 white at 82½c. **BARLEY**—No. 1 six-rowed State 75c, No. 2 do 67c, No. 3 do at 62c on track. Sale three carloads sample Nebraska at 68c. **RYE**—No. 2 Western 60c; State 55c.

DUFOR & CO.'S CELEBRATED BOLTING CLOTH.

WHEAT TRADE INFLUENCES.

The latest Australian news is to the effect that the outturn of the last wheat crop in that country was little more than half of what was expected, and the fact did not appear till after threshing was well under way. Hence the export surplus was only about 14,000,000 bushels instead of the 24,000,000 originally talked of, and the greatest part of that has already left the country. A gentleman in the export trade says that the hardening of quotations in Western Europe is largely due to this fact. We note, also, that H. K. Jackson is credited with the assertion that English farmers will reduce their wheat sowing by 1,000,000 acres, and the French will reduce theirs by 5,000,000 acres. More familiar news, because nearer home, is to the effect that American farmers have also largely reduced the acreage sown to winter wheat. It would not be out of the usual order of nature if this year's plethora be followed by a production much below the average.—Chicago Tribune.

EFFECTS OF HOLDING BACK CROPS.

It is not the anticipation of a great harvest which makes good times, but the actual circulation of the proceeds. A million bushels of grain or any other quantity stacked in the fields, or locked up in farmers' bins is of no more avail to present business than if it did not exist. The light earnings of the railroads in the Northwest prove that the farmers are holding back their wheat with unusual tenacity. They are, in effect, speculating in their own grain, to the detriment of the fall trade. Prices of wheat have stiffened somewhat under this influence, but no advance has been secured sufficient to insure an early movement. What is needed to raise prices is not merely a decrease in the visible supply in this country, but a decrease in Europe as well. All advices from abroad point to at least an average crop, and this is true of India as well as of England and the Continent. The returns from India show a total crop of 135,000,000 cwts., one-fifth of which (27,000,000 cwts.) is available for export. But at present prices it cannot be exported without loss. The returns of the British Board of Trade for August show a falling off in wheat imports from India of 500,000 cwts, and at the same time a gain of 800,000 cwts. from the Atlantic ports of the United States. There is a falling off, however, of 300,000 cwts. from the Pacific ports. Advices from the Pacific coast indicate that the farmers of California and Oregon are holding back their grain even more tenaciously than those of the Northwest.—N. Y. Evening Post.

NOTES.

A large flour mill has just been completed by J. W. Morris, at Morning Star, N. C.

The Blue Earth City, Minn., Post, is authority for the statement that James Dobson, of Fairbault county, raised this season, 95 bushels of red Russian wheat on two acres of ground.

At Pocopsin township, Chester county, Pa., Oct. 2, the flour mill of Henry Haines was destroyed by fire, together with the contents. It was insured in the Union Mutual Company, of Kennett, for \$2,500.

MEANNESS IN FAMILIES.

"Talking about mean men," remarked a passenger from the West, "I saw a case in Iowa that beat anything ever I heard tell on. A young man lived in town and his wife's parents in the country. They were farmers, and whenever they went into town they would carry in some vegetables, fruit, or something of that kind, to their son-in-law. There was some business dealings between them of some kind, and at the end of the year when they came to a settlement the young man was surprised to find that all the vegetables, etc., were charged up to him at pretty stiff prices. He didn't say anything, but put in his bill for seventy-four meals at fifty cents apiece. You see, his father and mother had taken their dinners at the house when in town. Then the old man brought in an item 'to summer board for yourself and family two weeks, \$32.' The son and his wife had visited their parents a couple of weeks. Then the young man charged his mother-in-law \$14 for his wife's services in helping her mother to make a dress. The old man came back at him by charging up 'to carry you in my wagon to my house and back to town seven times, \$7; your wife and children three times, \$5.' Thus

they kept at it, and when I left they were having a law suit—the old man trying to collect \$32 for his wife tending to her own daughter two weeks while the latter was sick, and the son-in-law trying to offset that with two weeks' board for the old lady at \$6 a week, and \$20 for dishes and things she had broken during her stay. If they ain't the meanest men in this country I don't want to meet the ones that get away with them."

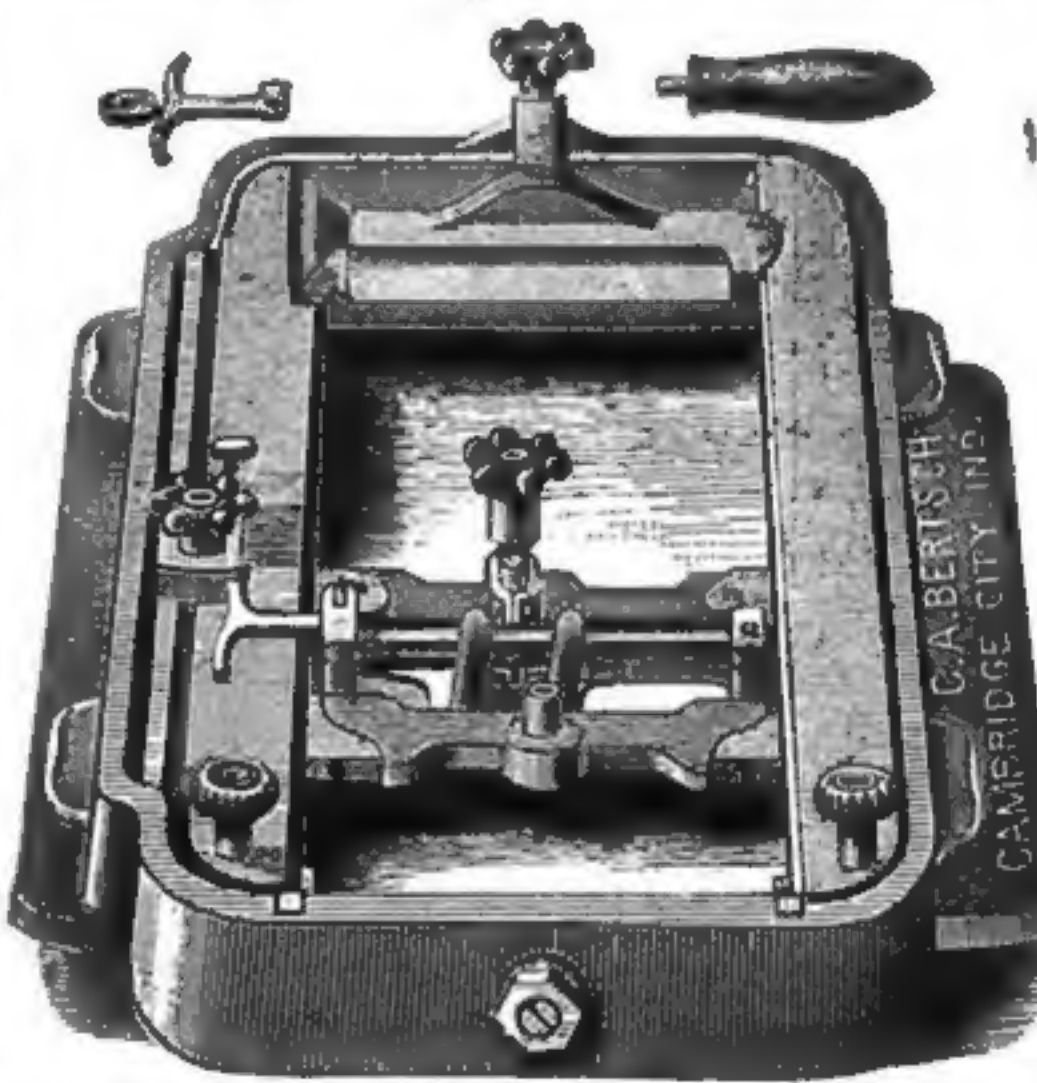
JAMES S. MCGOWAN & SON,
SHIPPING AND COMMISSION MERCHANTS.
Choice Milling Wheats a Specialty
Room 60 Board of Trade Building.
BUFFALO, N. Y.
No Charge for Inspection

Toledo Mill Picks and Stone Tool Mfg. Co.

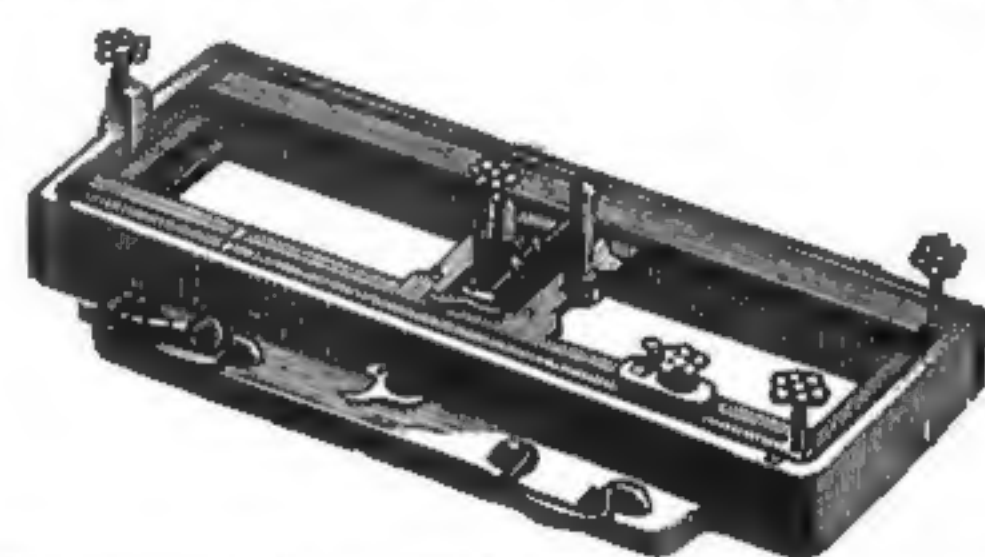


Manufacturer and Dresser of
MILL PICKS.
Made of the very best double-refined English cast steel. All work guaranteed. For terms and warranty, address **GEO. W. HEARTLEY**, No. 297 St. Clair Street, Toledo, O. Send for Circular.
N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.
ALSO MANUFACTURERS OF
SHAFTING, PULLEYS, HANGERS, COUPLING
AND MACHINE JOBBING.

TEETOR'S QUICK ADJUSTABLE DIAMOND DRESSER.



The A. Machine. 29 inches long, 18 inches wide. Weight, 140 pounds. Same width carriage as the B machine.

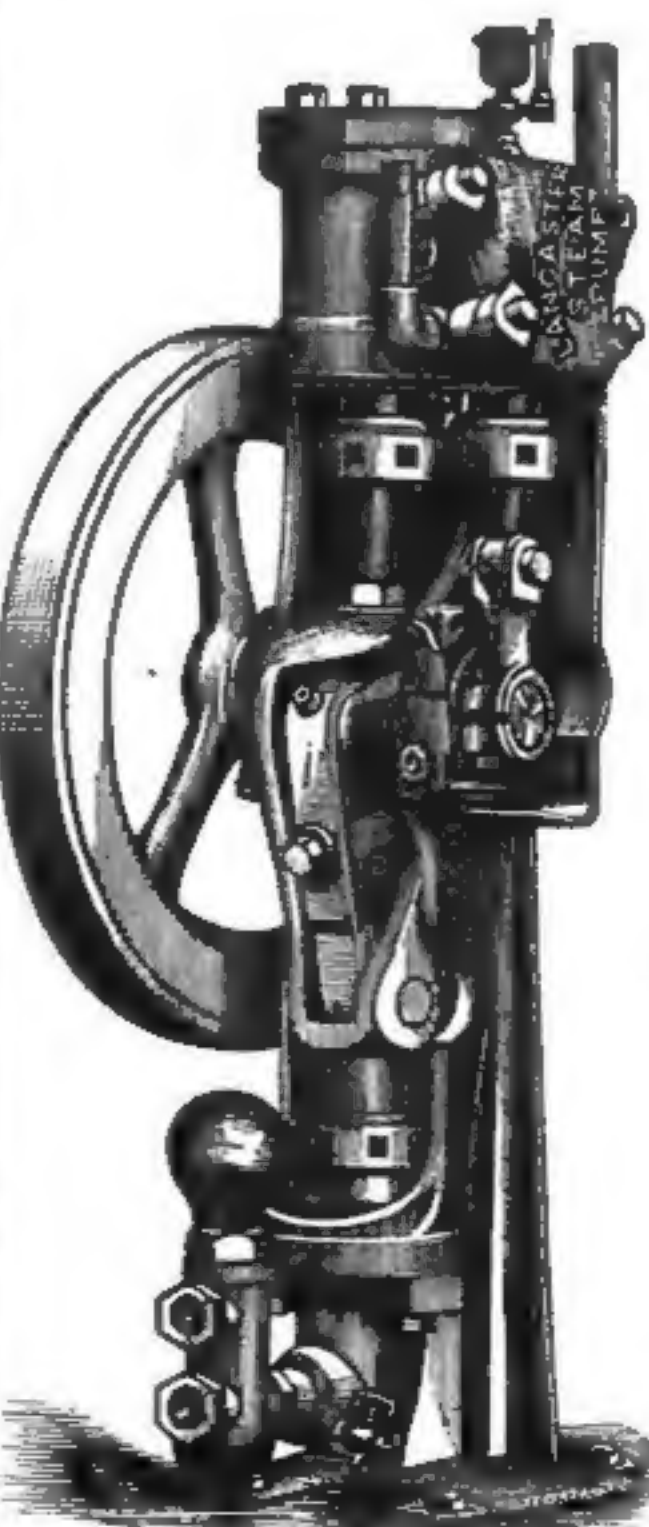


The B Machine. 33 inches long, 19 inches wide. Weight, 165 pounds.

Automatic rod feed. A Revolution. Will cut over 1,000 cuts per inch, right or left, with one or two diamonds for facing. The only Practical feed, especially for deep facing, once going over. No tools required; will Warrant Better Satisfaction, and More Work of all kinds can be done with less trouble than with others. The best of references given. Mechanics are much surprised as to their merit, and say it is "A Revolution." There has never yet been a call for repairs for any one machine. Have been in operation for over four years. Also a Perfect Diamond Holder. See a Machine shown by Thos. Bradford & Co., Exposition, Cincinnati, Ohio. Full descriptive circulars forwarded. Mention this paper.

C. A. BERTSCH, MANUFR., CAMBRIDGE CITY, IND.

FOR ENGINES & BOILERS



**One to 30 Horse Power,
PRICE, FROM \$125 UPWARDS.**

Steam Pumps, - \$35 and up.
Eclipse Tire Benders, 15 " "
Fan Blowers, - - 18 " "
Tuyere Irons, - - - \$2.50.

THE BEST IN THE MARKET!

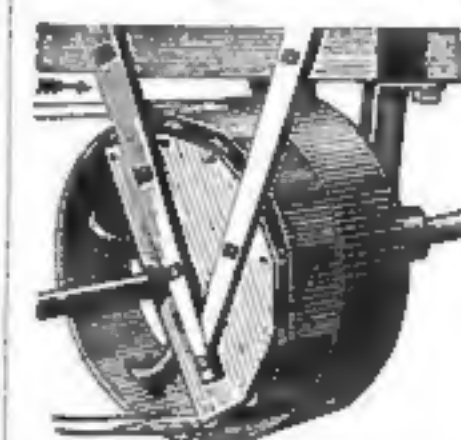
For Circulars, Etc., Address,

THE LANCASTER STEAM PUMP CO.
AND MACHINE WORKS,

EZRA F. LANDIS, PROPRIETOR, LANCASTER, PENN.

**FIRST AND ONLY PREMIUM
OVER ALL COMPETITORS!
PURCHASE ONLY
FROM RELIABLE DEALERS.**

The Wellington Belt Holder.



A NEW IDEA!
BETTER AND CHEAPER THAN
LOOSE PULLEYS.
BETTER AND FAR CHEAPER
THAN DEAD PULLEYS.
Our Customers Like it and
Order More.

Please write for Circular to

W. R. SANTLEY & CO., WELLINGTON, O.

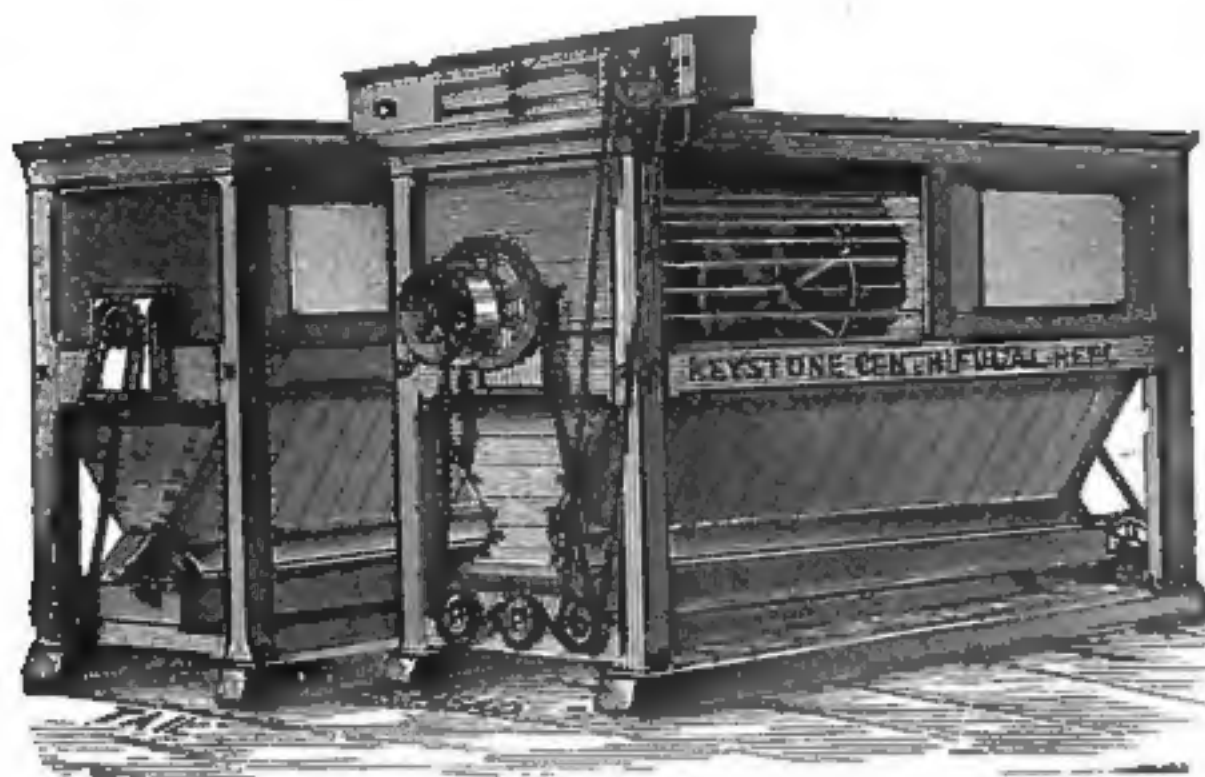
JOHN C. HIGGINS & SON,
Manufacturers and Dressers of
MILL PICKS.
163 KINZIE ST., CHICAGO.



Picks will be sent on 30 or 60 days' trial to any responsible Miller in the United States or Canada, and if not superior in every respect to any other pick made in this or any other country, there will be no charge, and I will pay all express charges to and from Chicago. All my picks are made of a special steel, which is manufactured expressly for me at Sheffield, England. My customers can thus be assured of a good article, and share with me the profits of direct importation. References furnished from every State and Territory in the United States and Canada.



Send for Circular and Price List.



KEYSTONE CENTRIFUGAL REEL

—PATENTED MAY 6th, 1884.—

Drag Brush Feed, Tightest Heads, Best Results. Cheapest and Best on the Market. Adapted to all Kinds of Milling. The New Drag Feed Thoroughly Protects the Silk. Sent on Trial to any Responsible Miller.

ROLLER MILLS, SCALPING REELS, PULLEYS, SHAFTING AND ALL KINDS OF MILL IRONS.

Full Stock of Dufour and Dutch Anchor Bolting Cloth.

BEST QUALITY FRENCH BURR MILLSTONES, FOR MIDDINGS, WHEAT AND FEED.

Leather, Rubber and Cotton Belting, Smut Machines, Purifiers and everything belonging to a Flour Mill furnished at Lowest Market Prices. For Circulars, Prices and Full Particulars, address the Manufacturer,

C. K. BULLOCK, 1357, 1359, 1361 RIDGE AVE., PHILADELPHIA, PENN.

UNION STONE CO., BOSTON, MASS. PATENT MILLSTONE CEMENT.

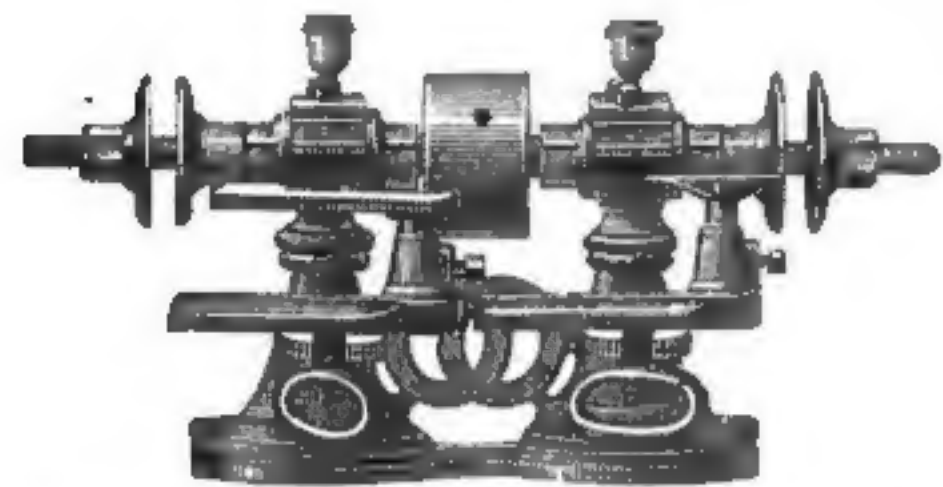
Invaluable to Millers for Repairing and Filling the Joints,

This is a new article of manufacture, and is greatly superior to the preparations now in common use, harmless, containing nothing of a poisonous nature. It has the nature and attains the hardness of a part of the Stone, and assists in grinding. Good Millstones are now in use, composed of miller's use, it is put up in cases of two sizes. *Price per case: Small, \$3.00; Large, \$5.00.* Otherwise we shall send C. O. D. by Express, collecting for return of the money. For manufacturers, the Furrows and



Cavities and Seams in French Burr and other Millstones.

use by millers. It is much cheaper, and can be applied by an inexperienced person. It is perfectly of French Burr Stone, wears evenly with it, and not only fills the cavity, but adheres to and becomes a part of this preparation. The Leading Makers are Adopting it to Build Their Millstones. For We cannot open an account for so small a sum, therefore *Cash should be sent with order*, otherwise furnish in bbls. of 300 lbs. Price upon application. Emery Rub Stones, for hand use in Finishing Faces of Millstones.



Emery Wheel Machine No. 0 Has 3/4 Inch Arbor.

Union Stone Co., 38 & 40 Hawley Street, Boston, Mass.

PATENTERS AND MANUFACTURERS OF THE

Union Emery Wheels, Emery Wheel Machinery and Tools a Specialty. Wooden Polishing Wheels, Automatic Knife Grinding Machines. Grinders and Polishers' Supplies. Catalogue on Application.

EMERY, QUARTZ, CORUNDUM.



DIAMOND TOOLS, FOR DRESSING OR TRUING EMERY WHEELS



CORN & COB CRUSHERS

PRICE, \$15.00.

Send For Circular.

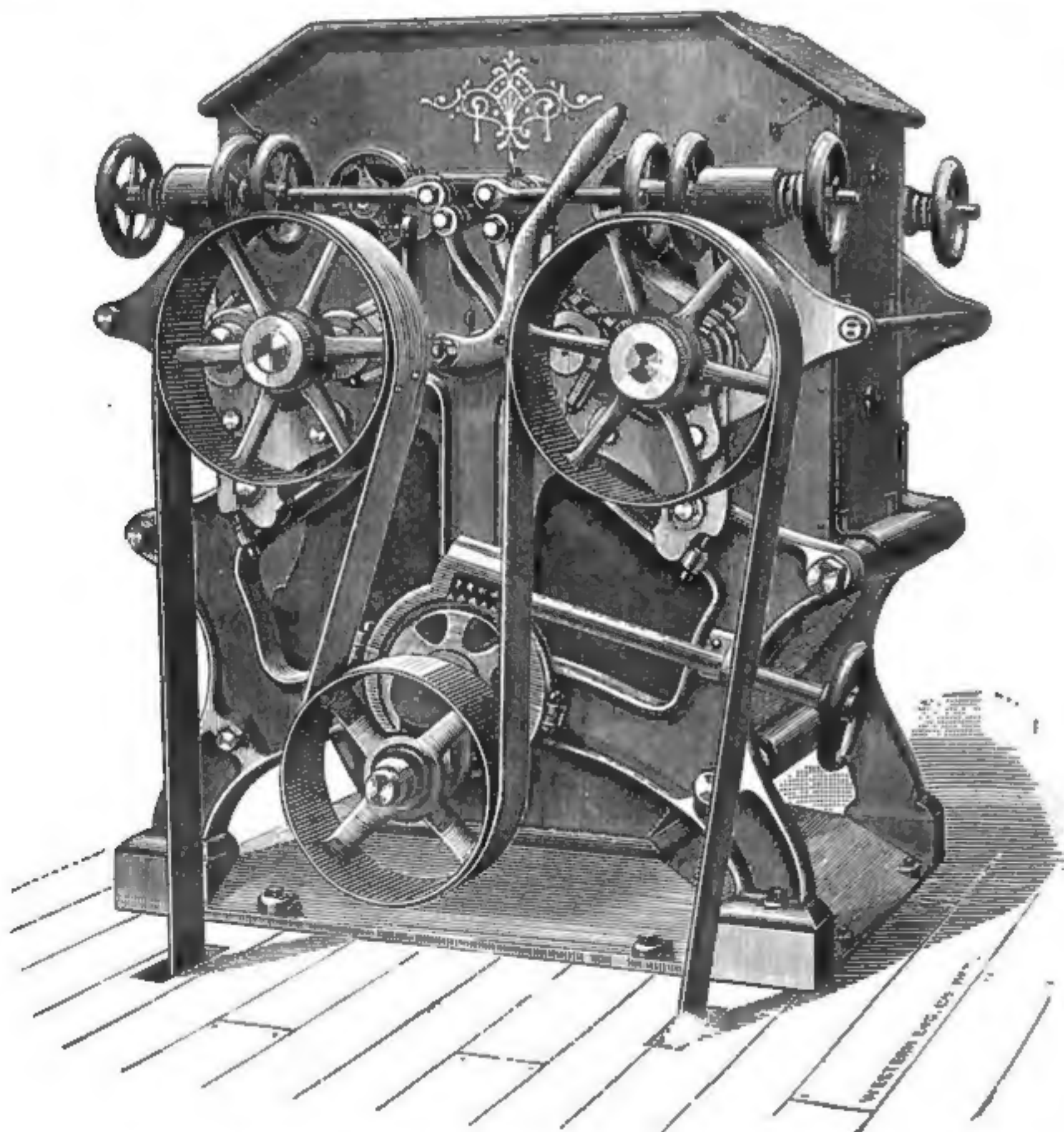
SHAFTING, PULLEYS & HANGERS.

Pulleys a Specialty, Large or Small. Address,

T. B. WOOD & SONS, CHAMBERSBURG, PA.



The MILLER ROLLER MILL



Has no superior. Universal Tightener, Automatic Feed, Tight Base, Noiseless, with Non-Cutting Corrugations. We also manufacture the Rider Wheat Break, which has no equal for 1st, 2d and 3d Breaks. Send for Reference and Circulars of our Machines,

THE MILLER CO., CANTON, O.

LORD BALTIMORE HOMINY MILL.

PATENTED SEPT. 28, 1880, AND JULY 26, 1881.

The Best, Most Durable, and Most Economical Machine.

The Lord Baltimore Hominy Mill is no experiment, but is in constant use and giving unexampled results in several large mills. Its capacity is greater than that of any other hominy machine, being from three to five barrels of Hominy per hour, and in preparing the corn for Grits, Pearl Mill or Corn Flour, five to six barrels per hour. It is built of the best materials. The various cages are composed of an aggregation of staves, so that in case any of the staves are broken, they may be easily repaired with little trouble or cost.

For Prices, and further particulars, address

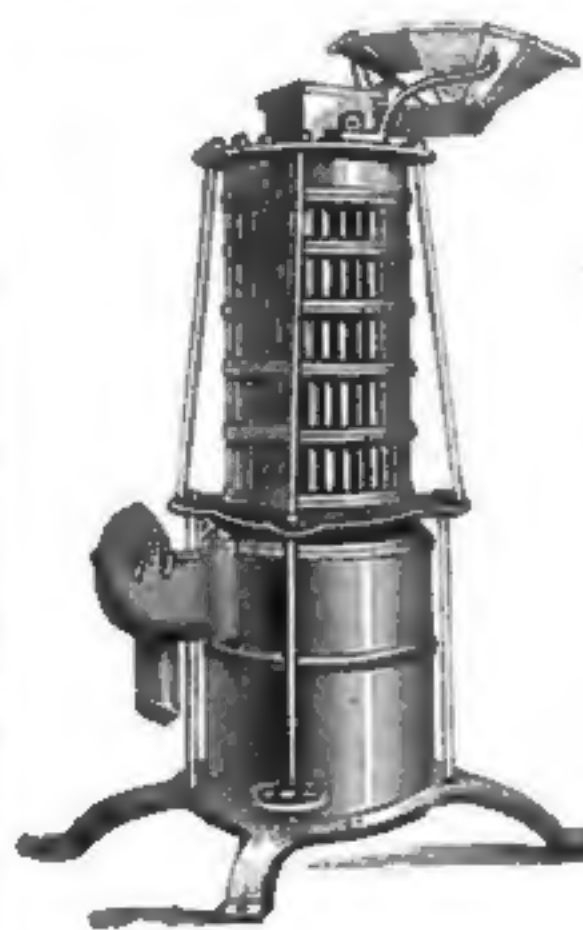
C. S. DAY, Patentee & Manufacturer, KENT ISLAND, MD.

Please address all orders for Castings and Hullers to

JAMES McMILLAN,

Not Washer and Bolt Manufacturer and Machinist,

151 NORTH STREET, BALTIMORE, MD.



GREAT TRIUMPH IN INVENTION

The Simplicity so long sought after in Roller Mills attained at last.

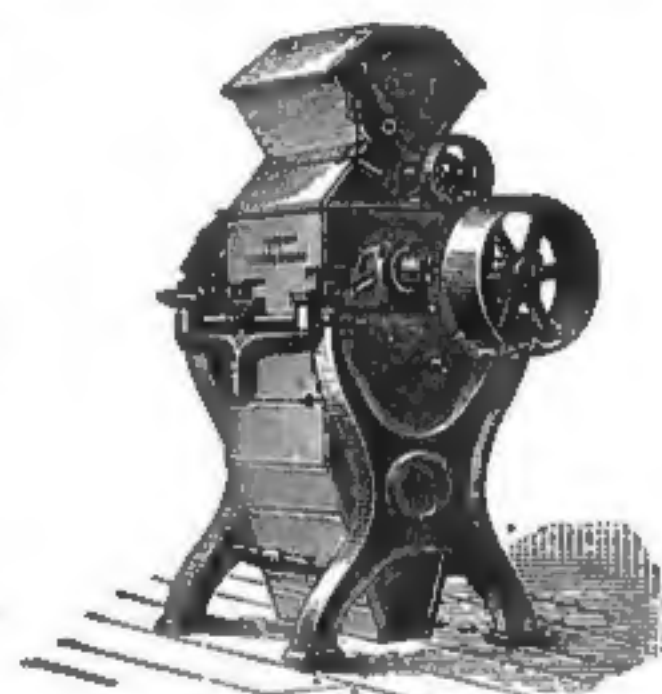
ONE, TWO, OR FOUR BREAKS IN A SINGLE FRAME

SIZES OF ROLLS 9x18 and 7x14 INCHES.

NO CROSS BELTS. NO FRICTION. NO LOSS OF POWER.

Reduction Rolls, Bolting Cloth, Purifiers, Middlings Mills and Bolting Chests. General Mill Furnishing Supplies.

W. H. BARBER & CO., SOLE MANUFACTURERS, ALLENTOWN PA.

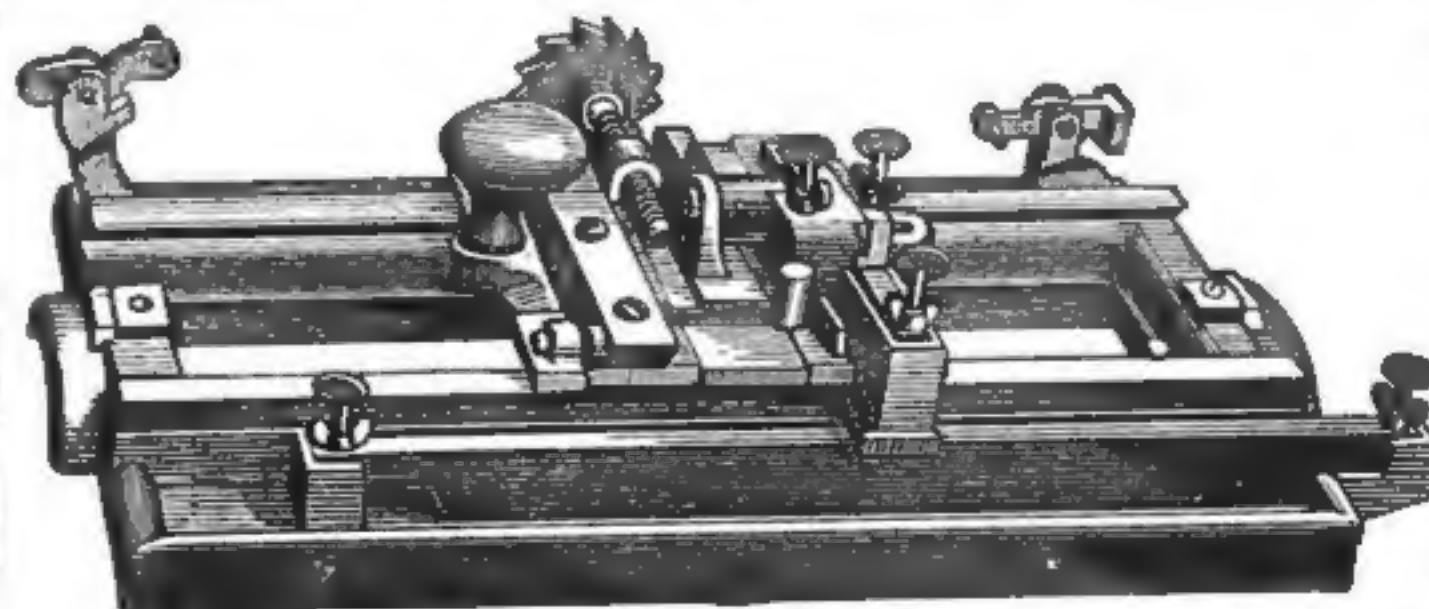


HOOVER'S IMPROVED DIAMOND MILLSTONE DRESSING MACHINE.

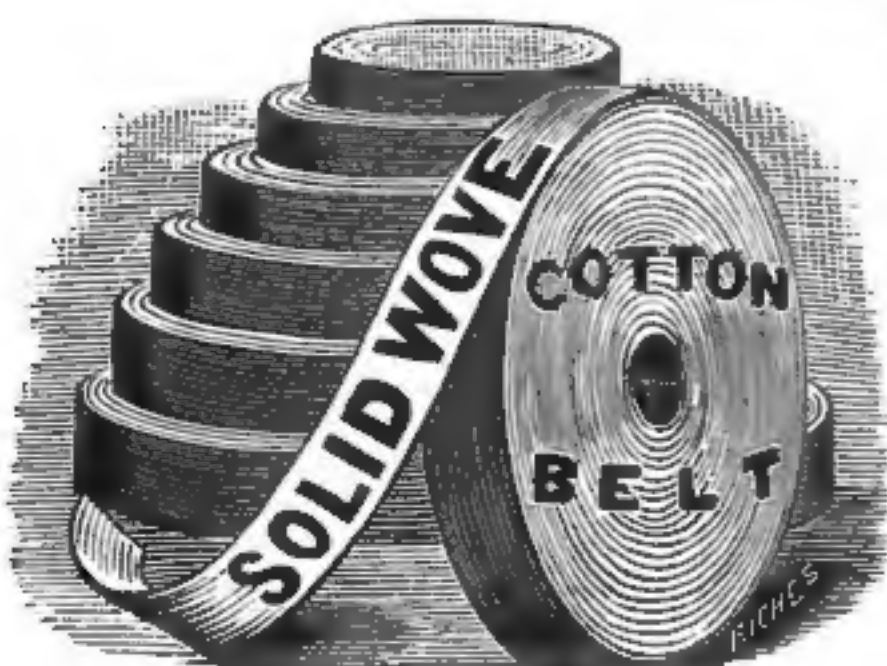
ADAPTED TO ALL KINDS OF DRESSING.

No. 1, to face and crack \$25.00
No. 2, to face, crack, dress furrows, and will dress any size stone 45.00
No. 3, to face, crack and dress furrows..... 40.00

Will do as good work, and is more easily adjusted than any other machine. Sent on 30 days' trial. Address for circulars, containing full information.



C. S. HOOVER, Patentee and Manufacturer, 409 East King St., LANCASTER, PENN.



MILL SUPPLIES { Everything Used in a Mill of Every Kind Always on Hand.

Leather Cotton Rubber } **BELTING, BOLTING CLOTH**

ELEVATOR BUCKETS, BOLTS, MILL IRONS, &C.

Prices Close and Quality the Best.

The Case Mfg. Co., Columbus, Ohio.

ROLLS RE-GROUND

And Re-corrugated to order. Porcelain rolls re-dressed. Our Machinery for this purpose is very accurate. Can do work promptly.

Case Mfg. Co., Columbus, Ohio.

The Rounds Sectional Roller Mill

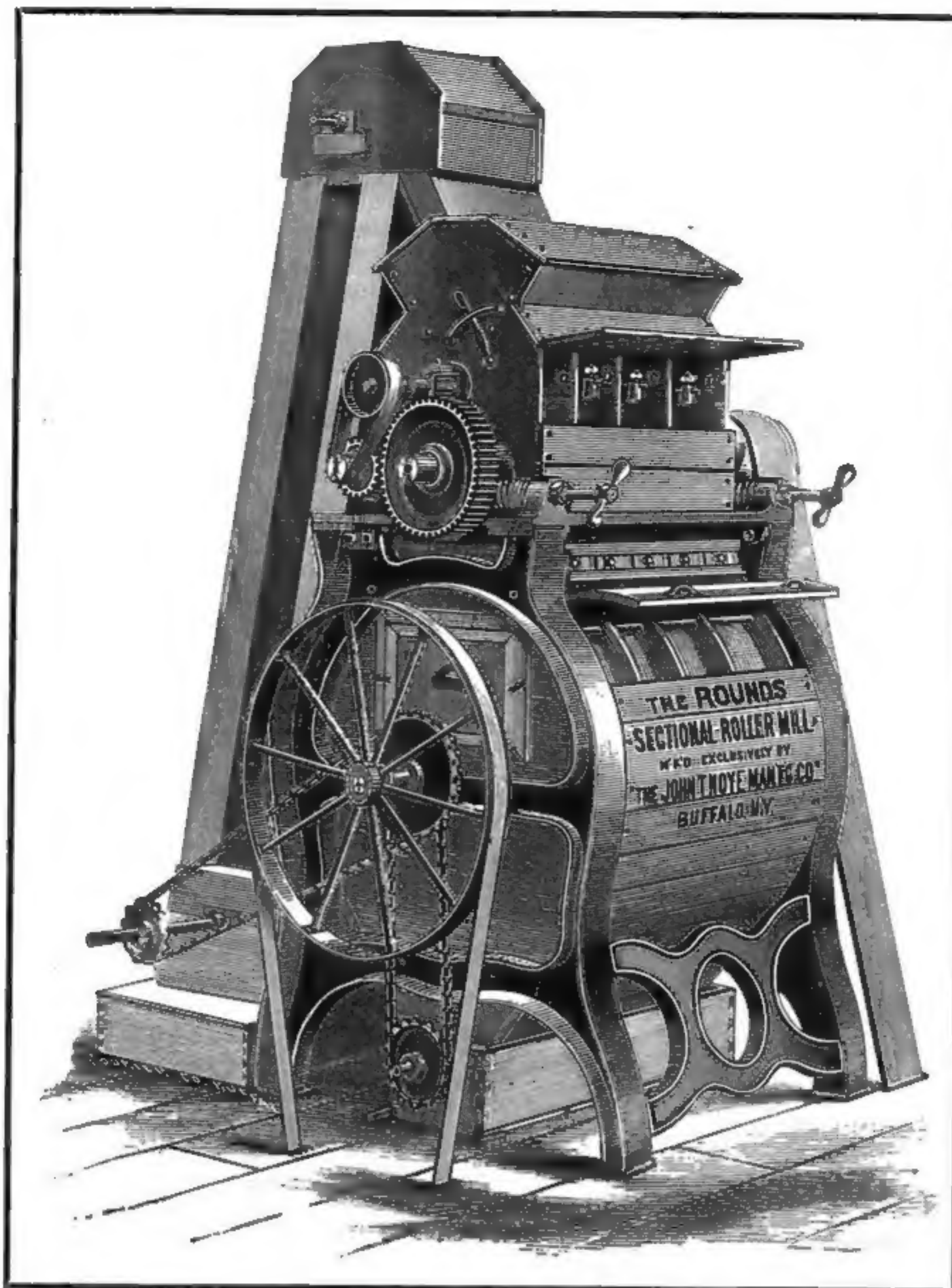
*Is Especially Adapted for
Custom and Exchange
Millers.*

Can be Adopted with less outlay
of money, and will produce more
satisfactory results than any other
roller mill manufactured.

STEVENS CORRUGATIONS.

This mill is in successful
operation in hundreds of
mills, and not one has
failed to come up to
the capacity and
work guaranteed.

CORRESPONDENCE SOLICITED.



*Unquestionably the Roller
Mill for Merchant
Millers.*

Perfect in its operation, and it
requires less power than any
similar roller mill in the world.

STEVENS CORRUGATIONS.

Enables the miller to adopt
the roller mill system with
less expense than by
any other method.

Send For Illustrated Catalogue
and PRICE LIST.

THE J. T. NOYE MANUFACTURING CO., BUFFALO, N. Y., U. S. A.



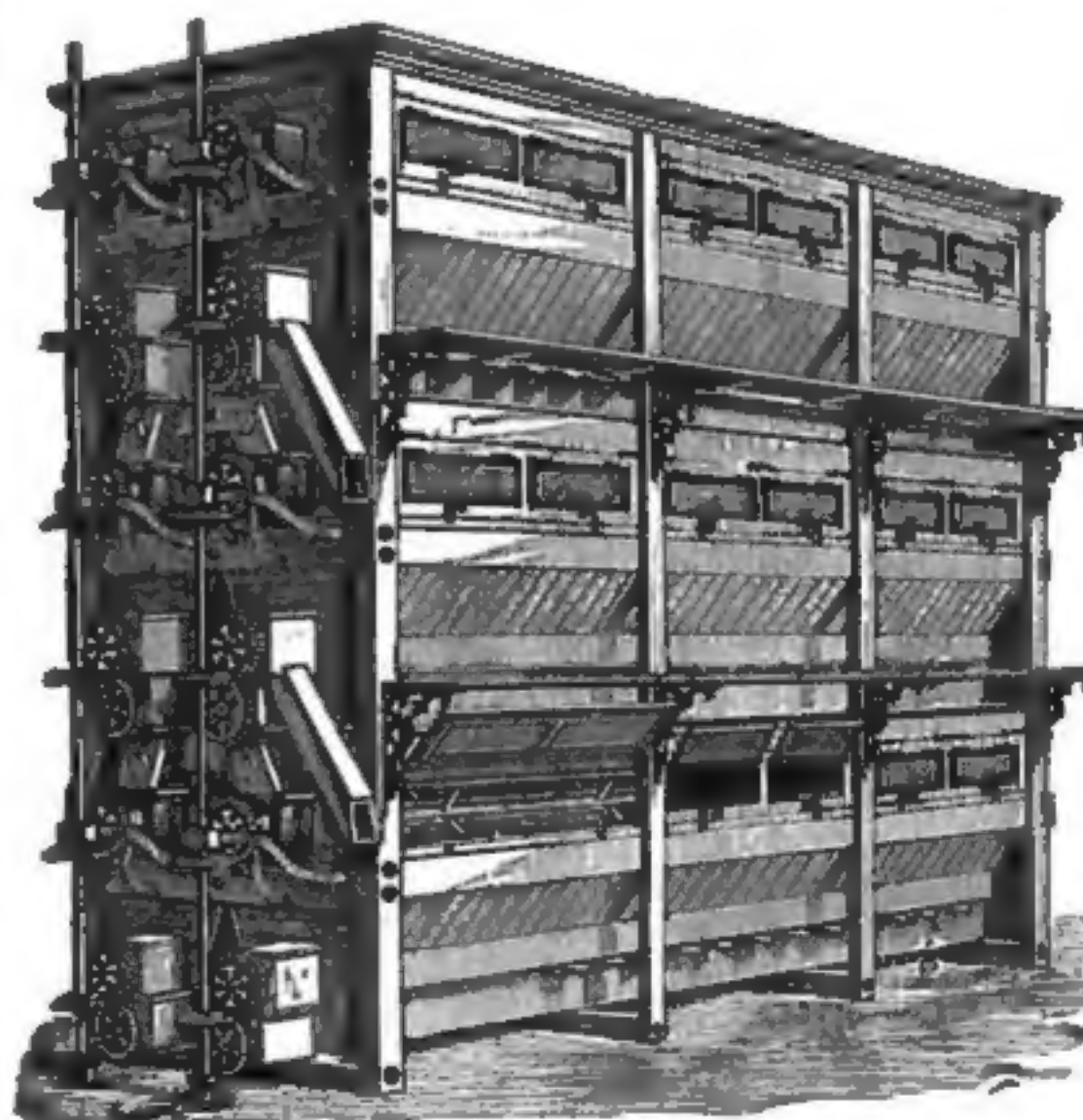
THE CELEBRATED SCHINDLER-ESCHER LION BRAND Bolting Cloth

Is Imported Direct from Zurich, Switzerland, and
Sold Wholesale or Retail by the

GREAT WESTERN MANUFACT'NG CO.

LEAVENWORTH, KANSAS.

Send for Price List, Samples, and Book of Diagrams.



RICHMOND CITY MILL WORKS,

MANUFACTURERS OF AND DEALERS IN

Impr'ed Milling

MACHINERY

AND

ALL KINDS MILL SUPPLIES

Richmond, Indiana.

SEND FOR CATALOGUE.

THE EXCELSIOR ANCHOR BOLTING CLOTH TO THE FRONT.

RECOGNIZED AS THE QUEEN OF ALL BOLT
CLOTHS BY ONE-THIRD OF THE MILL OWN-
ERS, MILLERS AND BUILDERS IN THE UNITED
STATES, AND THEIR VERDICT IS "GIVE US THE
EXCELSIOR AND NO OTHER!" SEND FOR DIS-
COUNTS AND PRICES FOR MAKING UP, WHICH
ARE GREATLY REDUCED.



RECOGNIZED AS THE QUEEN OF ALL BOLT
CLOTHS BY ONE-THIRD OF THE MILL OWN-
ERS, MILLERS AND BUILDERS IN THE UNITED
STATES, AND THEIR VERDICT IS "GIVE US THE
EXCELSIOR AND NO OTHER!" SEND FOR DIS-
COUNTS AND PRICES FOR MAKING UP, WHICH
ARE GREATLY REDUCED.

HUNTLEY & HAMMOND, SOLE IMPORTERS, SILVER CREEK, N. Y.

Successors in the Bolting Cloth Trade to Huntley, Holcomb & Heine, Holcomb & Heine and Aug. Heine.